Gender Identity Development in School-Age Children: A Cross-Cultural Examination of Identity, Emotional Well-being, and Academic Self-Concept

Olivia Kuzyk

A Thesis

in the Department

of Psychology

Presented in Partial Fulfillment of the Requirements

for the Degree of

Doctor of Philosophy (Psychology) at

Concordia University

Montréal, Québec, Canada

March 2025

CONCORDIA UNIVERSITY
SCHOOL OF GRADUATE STUDIES

This is to certify that the thesis prepared

By: Olivia Kuzyk

Entitled: Gender Identity Development in School-Age Children: A Cross-Cultural Examination of Identity, Emotional Well-being, and Academic Self-Concept

and submitted in partial fulfillment of the requirements for the degree of

Doctor Of Philosophy

complies with the regulations of the University and meets the accepted standards with respect to originality and quality.

Signed by the final examining committee:

Dr. Ian Irvine — Chair

Dr. Amanda Rose — External Examiner

Dr. Miranda D'Amico — Arm's Length Examiner

Dr. Lisa Serbin — Examiner

Dr. Joyce Lui — Examiner

Dr. William M. Bukowski — Thesis Supervisor (s)

Approved by

Dr. Andrew Ryder — Chair of Department or Graduate Program Director

March 14, 2025
Date of Defence

Dr. Pascale Sicotte — Dean, Faculty of Arts and Sciences

Abstract

Gender Identity Development in School-Age Children: A Cross-Cultural Examination of Identity, Emotional Well-being, and Academic Self-Concept

Olivia Kuzyk, PhD
Concordia University, 2025

This research includes three studies that contribute to developmental psychology and gender studies by exploring gender identity development in diverse cultural contexts during middle childhood. By examining gender identity through a multidimensional lens and considering cultural and social factors, this work seeks to move beyond traditional binary views of gender. A cross-national approach, comparing samples from Montréal and Barranquilla, offers insights into both individualized and culturally specific features of gender identity development. A nuanced understanding of these relations can inform culturally sensitive and gender inclusive practices that support gender development in childhood. **Study 1** investigated the replicability and generalizability of a dual-identity model of gender among children aged 10-12 years. Using cross-national samples, four gender identity clusters were identified through K-Cluster means analyses. Longitudinal data revealed changes in children's identification with gender traits over the school year, particularly those associated with the opposite gender. These changes varied across socioeconomic and demographic contexts. **Study 2** examined the relations between gender identity, peer victimization, gender pressure, and anxiety among fifth and sixth-grade students. Using comparative and regression analyses, it assessed mean differences in these variables across gender clusters and how the interaction of gender identity, anxiety, and gender pressure predicted peer victimization across sociodemographic groups. The study reveals that children who identify with both gender features report the highest levels of peer victimization, anxiety, and gender pressure. A statistically significant interaction shows that these dynamics are more pronounced in Barranquilla than in Montréal, underscoring the role of sociocultural contexts in shaping these relations. **Study 3** explored the relation between peer-assessed school performance and self-perceived cognitive competence, considering gender-related traits and contextual variables. Key findings using structural equation modelling reveal that peer-assessed competence is more strongly associated with self-perceived competence for upper-middle-class counterparts. This association is weaker for girls than boys, potentially due to SES influences on boys' academic trajectories in STEM fields. Additionally, communal traits such as being affectionate, sympathetic, understanding, and sensitive to the needs of others are more strongly associated with self-perceived competence for girls. In sum, these findings highlight the importance of recognizing diverse cultural messages that shape children's gender identities. This work can better inform educators and clinicians to support fluidity in gender expression as a normative part of development, fostering inclusive environments that promote positive identity development while also respecting diverse expressions across cultural contexts.

Acknowledgements

"Keep your eyes on the stars, and your feet on the ground."- Theodore Roosevelt

I am humbled by the patience, kindness and contributions from those whom this dissertation would not be possible.

Bill— from the bottom of my heart, thank you. I am immensely grateful for your guidance and wisdom from the very beginning. I feel very fortunate to have worked with an advisor who not only conveys his love for this field but also inspires his students to embrace it as well. Your support has impacted both my academic and personal growth, always encouraging me to stay curious.

Josh— my guiding star. Thank you for always keeping me grounded and centred, especially in the most challenging and uncertain moments. Your patience and thoughtful gestures—both big and small—have never gone unnoticed or unappreciated; in truth, they are what helped me through. I am forever indebted to you. I love you.

Bianca— what a ride. There is no one else I would rather share it with. Thank you for the late nights, tears, laughs, and espressos, but I am especially grateful for your lifelong friendship. We (finally) did it!

Lana— always balancing compassion with insight, you propelled me forward when I felt stuck. Thank you for being my wise mind.

The Kuzyks, Mazzuccos, Ladhas, and Whynes—my family—your unwavering love and understanding have made all the difference in my journey, and I truly appreciate each of you.

Bukowski lab— thank you for creating such a welcoming and warm environment from the very start. Being part of this lab has genuinely enriched my graduate school experience, and I am truly grateful for the support and friendships I found here.

Lastly, I want to extend my deepest gratitude to the children and families who participated in this research, as well as my clients in my clinical work. You are my greatest source of inspiration, and your stories motivate me every day.

Contribution of Authors

Olivia Kuzyk	Conceptualization of research designs, secured funding, data organization and preparation, planning and execution of statistical analyses, writing, editing and proofing.
William M. Bukowski	Research advisor, secured funding, supervised and contributed to the development of research measures and larger study design, study conception and execution, relevant analyses, editing and proofing.
Luz Stella-Lopez	Facilitated data collection process.
Alice Gendron	Editing and proofing Study 3.

Table of Contents

List of Tables

Study 1

Study 2

Study 3

List of Figures

Study 1

Study 2

List of Appendices

General Introduction

Gender identity, one of the earliest and most significant social categories in child development (Lewis & Brooks-Gunn, 1979; Martin & Ruble, 2004; Martin et al., 2017), evolves from basic knowledge in early years to a more complex construct during middle childhood. Studying this critical period in childhood is essential for understanding the foundations of identity formation (Egan & Perry, 2001; Halim & Ruble, 2010). During this stage, children not only perceive themselves and their roles in society through a gendered lens (Ruble et al., 2007) but also begin to navigate societal expectations with increased sophistication (Martin & Ruble, 2004; Tobin et al., 2010).

This dissertation investigates the multifaceted features of gender identity, its development, and its implications across diverse cultural contexts in middle childhood. By examining gender identity through a cross-national perspective, this research offers valuable insights into how cultural and social factors shape children's experiences and expressions of gender (Blakemore et al., 2009; Bos et al., 2019). The studies focus on school-aged children from Barranquilla, Colombia, and Montréal, Canada, highlighting the role of sociocultural contexts in gender identity development (Bronfenbrenner & Morris, 2006; Leaper & Friedman, 2007). This cross-national approach allows for a deeper understanding of how varying cultural norms and sociodemographic factors impact children's perceptions of gender, including the potential impact of diverse representations and opportunities for expression (Leaper, 2011; Zosuls et al., 2011).

Beyond exploring contextual influences, this research also delves into the impact of gender identity on children's functioning across multiple domains. Specifically, it examines how gender identity relates to social experiences, such as perceived peer victimization (Carrera-

Fernández et al., 2018), emotional well-being as indicated by reported anxiety levels (Yu & Xie, 2010), and perceptions of academic competence (Heyder & Kessels, 2013). This comprehensive approach allows for a nuanced understanding of how gender identity intersects with various aspects of children's lives. The cross-national design enables an exploration of how varying cultural norms and sociodemographic factors impact not only children's perceptions of gender but also the potential consequences of these perceptions on their social, emotional, and academic experiences (Leaper, 2011; Zosuls et al., 2011).

Conceptual Framework

Our understanding of gender is influenced by a complex interplay of numerous factors that include cultural norms, historical context, individual experiences, and evolving societal attitudes. The concept of gender identity has shifted significantly over time, moving from traditional binary views to more nuanced, multidimensional approaches. Early conceptualizations often limited gender to disconnected and binary categories. However, contemporary understanding recognizes gender as a fluid and evolving construct, allowing for a broader spectrum of gender identities to be acknowledged and studied. This dynamic concept varies across different cultures, generations, and regions. Defined here, gender is a multifaceted social and cultural construct that encompasses a diverse spectrum of identities, roles, expressions, and lived experiences. It extends beyond the binary notions of masculinity and femininity and includes a broad range of possibilities, from identifying as one gender to neither, both, or somewhere along the gender continuum.

The study of gender identity in psychology has seen significant developments since the mid-20th century. A key contribution was Dr. Sandra Bem's Sex Role Inventory (BSRI) in 1974.

The BSRI proposed that individuals could possess a combination of traditionally "masculine" and "feminine" traits, challenging the prevailing binary view of gender.

Building on this work, Egan and Perry (2001) introduced a multidimensional model of gender identity development in children. They suggested that young children first develop a basic understanding of gender membership. As they grow, they integrate additional features into their gender-related self-concept, including gender typicality, gender contentedness, intergroup bias, and felt pressure to conform to gender norms.

More recently, Martin et al. (2017) proposed a dual-identity framework that considers children's perceived similarity to both their own and other gender groups. This model provides a more comprehensive view of how children understand and express their gender identity, recognizing that they may identify with varying degrees of both masculine and feminine gender features.

These models emphasize the importance of contextual influences on gender identity development. Children's understanding of their gender is shaped not only by internal factors but also by their interactions with their environment. Social learning theory suggests that children's gender-related self-concepts are influenced by various sources of social influence, including parents, peers, media, and cultural norms.

Research has demonstrated that these influences can have significant effects across various domains of functioning. In social contexts, studies have shown associations between gender nonconformity and increased risk of peer victimization (e.g., Toomey et al., 2010). In emotional domains, gender identity and expression have been linked to experiences of anxiety and depression, particularly for individuals who feel pressure to conform to gender norms that do not align with their sense of self (e.g., Yunger et al., 2004). In academic settings, studies have

revealed differences in perceived academic competence and achievement between boys and girls, often aligning with societal stereotypes about gender and academic subjects (e.g., Eccles et al., 1993). For instance, research has found that girls often perceive themselves as less competent in traditionally masculine-typed subjects like mathematics, despite equal or superior performance.

Gaps in the Literature

Despite advances in our understanding of gender identity, several gaps remain in the literature. Although gender development has been of interest to developmental psychologists for many years, much of the existing literature focuses primarily on the emergence of gender stereotypes (see Ruble et al., 2006 for a review) rather than on developmental changes in children's gender identity. Since the introduction of a multidimensional model of gender identity by Egan and Perry (2001), there has been a greater research focus in this area (Kornienko, Santos, Martin, & Granger, 2016). However, there is still limited research on the developmental trajectory of gender identity, particularly regarding how it may shift or change throughout the school year. Cross-cultural studies on gender identity in school-age children are scarce, which limits our understanding of how cultural factors influence gender identity development.

Furthermore, research on gender identity in non-clinical samples is notably limited, as most studies tend to focus on gender dysphoria as defined in the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, Text Revision (DSM-5-TR; American Psychiatric Association, 2022). Recent developmental literature, particularly that based on multidimensional views of gender, suggests that diverse gender identities are normative rather than exceptional (Martin et al., 2017; Olson & Gülgöz, 2018). However, there is a paucity of research examining gender from this perspective and its impact on children's functioning across different domains

(social, emotional, and academic). This gap is particularly relevant given ongoing policy and clinical debates surrounding gender and its impact on child development.

Research Questions

This dissertation addresses these gaps through three interconnected studies, all utilizing community and cross-national samples of school-aged children from Barranquilla, Colombia, and Montréal, Canada. The first study employs a longitudinal design to replicate and extend the multidimensional gender identity model proposed by Martin et al. (2017), examining how gender identity shifts throughout the school year. The second study investigates the influences of gender pressure across various gender identity clusters and its impact on social and emotional functioning, specifically focusing on peer victimization and anxiety. The third study examines how self-assessed cognitive competence and peer-assessed academic performance vary as a function of both masculine and feminine features of gender. It also explores how these relationships differ across socioeconomic status and culture as indexed by measures of individualism and collectivism.

Contributions to the Literature

This research aims to contribute to the fields of developmental psychology and gender studies by exploring gender identity development in diverse cultural contexts during middle childhood. By examining gender identity through a multidimensional lens and considering cultural and social factors, the work seeks to move beyond traditional binary views of gender, potentially helping to reshape theoretical frameworks in developmental psychology. The cross-cultural approach, comparing samples from Montréal and Barranquilla, may additionally offer insights into both universal and culturally specific features of gender identity development. A nuanced understanding of these dynamics could inform culturally sensitive approaches in

research and practice, contributing to early intervention strategies that support healthy identity development in school settings.

Findings may also help promote the importance of inclusive classroom environments that embrace both feminine and masculine traits, fostering freedom of gender expression while inspiring children to explore academic fields traditionally associated with specific genders. By creating environments that challenge stereotypes, policy makers, clinicians, and educators can broaden students' perspectives on their academic and career possibilities, regardless of their gender identity. Ultimately, this work seeks to establish a foundation for inclusive policies that recognize and support diverse gender identities from an early age, enhancing children's well-being across various cultural settings.

Study 1: Understanding Gender Identity in Diverse Cultural Contexts Among School-Age Youth: Insights from a Cross-National Study

Olivia Kuzyk, Luz Stella-Lopez, William M. Bukowski
Concordia University
Universidad del Magdelena

Abstract

The current study investigated the replicability and generalizability of a dual-identity model of gender among school-aged children (*M* ages 10-12 years) from diverse backgrounds. Cross-national samples (Sample A: $N = 820$; Sample B: $N = 351$) from Barranquilla, Colombia, and Montréal, Canada, were examined. Using K-Cluster means analyses, four gender identity clusters were identified, indicating varying levels of similarity to feminine and masculine features. Longitudinal data show changes in children's identification with gender traits over time, especially those associated with the opposite gender. Socioeconomic status and demographic location influence distribution within gender identity groups, highlighting contextual factors' role. This study provides insights into gender identity development in youth, emphasizing cultural and contextual influences.

Understanding Gender Identity in Diverse Cultural Contexts Among School-Age Youth: Insights from a Cross-National Study

Our understanding of gender is influenced by a complex interplay of numerous factors that include cultural norms, historical context, individual experiences, as well as evolving societal attitudes. It is a dynamic concept that evolves over time and can vary significantly across different cultures, generations, and regions. Defined here, gender is a multifaceted social and cultural construct that encompasses a diverse spectrum of identities, roles, expressions, and lived experiences. It extends beyond the binary notions of masculinity and femininity and includes a broad range of possibilities, from identifying as one gender to neither, both, or somewhere along the gender continuum.

The study of gender in childhood lays the groundwork for understanding how individuals perceive and navigate their gender identities throughout the lifespan. Therefore, the primary aim of the current study is to investigate how children perceive their own gender based on a novel dual-identity framework (Martin, Andrews, England, Zosuls & Ruble, 2017). Using two cross-national samples of school-aged children in Barranquilla, Colombia and Montréal, Canada, the authors examined how key factors, such as socioeconomic status and geographic location shape children's understanding of their own gender.

Gender Identity Framework in Childhood

Traditionally, definitions of gender identity are hinged on binary conceptions of the self as either male or female (Zucker & Bradley, 1995). The introduction of a multi-dimensional model of gender identity marked an important shift in how we understand and measure this construct today. This was initiated by psychologist, Dr. Sandra Bem through the development of an assessment inventory of gender identity, Bem Sex Role Inventory (BSRI, 1974). The BSRI was groundbreaking in its time as it allowed for a more nuanced understanding of gender

identity, recognizing that individuals could possess a combination of traditional "masculine" and "feminine" traits. Later, Egan and Perry (2001) posited that young children first develop a single feature of gender identity (i.e., membership knowledge), and then, in middle-childhood, move on to integrate four additional features into their self-concept (i.e., gender typicality, gender contentedness, intergroup bias and felt pressure to conform to gender norms). Pauletti and colleagues (2014) elaborated further by arguing that felt typicality/compatibility refer to an internal dimension of the self, whereas the others refer to external features of identity. Despite this multi-faceted approach, much of the recent research examining gender identity in childhood is focused on only one of these features—gender typicality (Martin et al., 2017). Defined here, gender typicality refers to the degree to which an individual identifies with a typical example of one's own gender category (Egan & Perry, 2001).

Considering contemporary re-conceptualizations of gender as a fluid and evolving construct, an expanded conceptualization was developed to allow for a broader spectrum of gender identities. Martin and colleagues (2017) brought forth a proposal for a "multidimensional, psychological construct that reflects individuals' beliefs about how the self relates to both gender groups" (p. 167). They created measurement scales to examine children's self-perceived similarity to both their own and other gender as opposed to externally observable indices of gender conformity. This novel conceptualization, termed "dual identity" framework, considers both genders as reference groups, providing a more nuanced understanding of gender identity.

Indeed, their findings support this proposal—children rely on comparisons with both genders to form their gender identity (Martin et al., 2017). In this seminal study, a demographically diverse group of first, third and fifth-grade children responded to items about their perceived similarity to own-gender and other-gender peers on a Likert-scale (i.e., "How

similar do you feel to [girls/boys]"; Martin et al., 2017). Across all ages, children used both own and other-gender reference groups to inform gender identity (Martin et al., 2017). Results suggested that four gender identity typologies exist based on various combinations of own and other-gender similarity. These include children who identify with i) their own-gender group; ii) the other-gender group; iii) both gender groups; and iv) neither gender groups. Approximately half of the children in the sample (n = 244) felt similar to their other gender group, both or neither of the gender groups. These findings not only indicate a need for a dual identity view, but also provide additional support that "non-conventional" gender identities are more common in childhood than initially believed.

The model is based in social identity theory **(**Rogers, Scott & Way, 2015), which emphasizes that identification with a social group is important for how individuals perceive and evaluate themselves as well as others, and guides how they navigate their social world (Ruble et al., 2004; Tajfel & Turner, 1986). Therefore, identification with a social group is important for children's understanding of who they are as well as who they can or should be (Rogers et al., 2015).

The Sociocultural Context

The sociocultural context, as emphasized by Bronfenbrenner's ecological model (1994), plays a pivotal role in shaping individuals' gender identity and expression. Throughout childhood, a multitude of influential systems, including family dynamics, peer interactions, school environments, media portrayals, and cultural norms actively transmit explicit and implicit messages about gender roles and expectations. Whether conveyed directly through parental statements like "boys don't cry" or subtly through gendered representations in educational materials, these messages collectively contribute to a child's socialization and the formation of

their gender identity and expression (Solbes-Canales, Valverde-Montesino & Herranz-Hernández, 2020). These multifaceted influences from diverse socialization agents highlight the complexity of gender development and underscore the significant role of environmental contexts in shaping gender roles and identities (Shen-Miller et al., 2011; Baker et al., 2016; Halpern and Perry-Jenkins, 2016).

Indeed, anthropological and sociological studies reveal that cultures vary significantly in the structure of their gender systems and the attitudes toward gender variance (Newman, 2002). These variations may involve culture-specific gender stereotypes, social status of genders, and different patterns of gender socialization. Given differences across cultural groups, it is likely that children also vary in the extent to which they subscribe to masculine and feminine features and how this is accepted within the peer network (Miller et al., 2006).

The cultural influences of gender in North America and Latin America, rooted in their historical and cultural contexts, have significantly shaped how gender is understood and expressed in both regions. Both areas share some commonalities, such as the historical presence of traditional gender roles where men were often seen as breadwinners and women as caregivers (DeSouza, Baldwin, Koller, Narvaz, 2004; Leigh, 2009). These roles have been deeply ingrained in societal norms and have contributed to the perpetuation of stereotypes related to masculinity and femininity. However, North America's cultural diversity, influenced by Indigenous, European, African, Asian, and other backgrounds, means that gender roles and expressions can vary widely across different ethnic and cultural communities (Bonvillain, 1989; Maltz & Archambault, 1995). This diversity adds complexity to the understanding of gender in the region, with variations in cultural expectations and practices.

Latin America, including Colombia, often has a more pronounced influence of Latin Catholicism and colonial history on gender constructs. Cultural constructs like "machismo" and "marianismo" have played a role in shaping perceptions of masculinity and femininity, emphasizing male dominance and female purity and self-sacrifice, respectively (Demir, Bilkis, Jacobson, & Einstein, 2020; Englander, Yáñez, & Barney, 2012; Kulis, Marsiglia, Lingard, Nieri, & Nagoshi, 2008). Specifically, machismo-related beliefs encompass expectations for men to exhibit traits of strength and assertiveness while fulfilling the role of primary provider (Mancera, Dorgo, & Provencio-Vasquez, 2017; Perrote & Zamboanga, 2021). In contrast, marianismo idealizes female purity and virtue, with women expected to embody qualities such as nurturing and caregiving (Rueda, Hoffman & Grytza, 2019; Villegas, Lemanski, & Valdéz, 2010).

Gender norms, influenced by cultural perspectives, intersect with socioeconomic systems, shaping the transmission of these messages within family and school contexts. This complex interplay impacts access to educational environments, which may challenge or perpetuate stereotypes and social norms surrounding education, employment, and household responsibilities (Pearse & Connell, 2016). Consequently, these societal constructs deeply shape individuals' understanding of gender, influencing their beliefs, attitudes, and behaviors regarding gender roles and expectations (Pearse & Connell, 2016). Such dynamics contribute to the reinforcement of traditional gender roles and potentially shape children's perceptions of their own gender identity.

Present Study

The present study had three primary aims. Firstly, it sought to replicate the findings of Martin et al. (2017) by investigating a multidimensional model of gender identity in school-age children, recognizing that children may subscribe to varying degrees of both masculine and feminine gender features, forming the basis of their gender identity. This replication was

In Barranquilla, the socioeconomic status of each neighborhood was assessed using a six-level estrato scale, with '1' representing very low SES and '6' indicating very high SES. One school was located in neighborhoods classified as estrato 1 and 2, while another school served students from estrato 5 and 6 neighborhoods. The school that was located in estratos 1 and 2 was designated as “low SES”; whereas the school that was located in estratos 5 and 6 was designated as “middle/high SES”.

Alternatively, in Montréal, SES assessment was based on the average family income within their respective schools. Parents provided income information for each adult member of their household over the past year using a questionnaire. An overall income score was calculated by summing the income of all family members. Notably, there were significant variations in SES between schools. One school had an average family income of $36,027, whereas the other two schools had average family incomes of $68,400 and $79,194, respectively. Comparison with data from the 2001 Canadian census revealed that the first school's income was notably below the provincial average of $59,296, while the latter two schools exceeded this average. Based on these averages, schools were designated as either “low” or “middle/high” SES for the purpose of the present study.

Sample B. Similar to Sample A, Sample B consisted of fifth and six-grade students between 10 and 12 years of age from mix-gender schools from lower-middle and upper-middle class neighbourhoods in Barranquilla and Montréal (N = 351). These data were collected during the 2005-2006 academic year. Descriptive statistics of the sample are also presented in *Table 1*. The assessment of school SES followed the same procedure detailed above.

Procedure

At the start of the school year, the researchers informed potential participants about the study and provided them with an information letter and a consent form for their parents to complete. Only adolescents who returned the signed consent form and provided verbal assent participated in the study. Data collection occurred on the tenth week of the academic year. In Sample B, participants were assessed twice, with an eight-week gap in between (i.e., Time 1 and Time 2). Specifically, they completed the questionnaires together in their classrooms using tablet computers.

To ensure accurate translation, the research team followed a three-step process. Initially, the questionnaires were created in English. Then, Colombian translators with expertise in psychology and education translated them into Spanish. Finally, a different group of translators back translated the Spanish version into English to ensure the items' intended meanings remained consistent throughout the translation process. The present sample included more than 90% of the participant pool.

Measures

Demographic Items. Demographic information, including participants' sex, age, and family income, was collected through a structured questionnaire administered during the data collection process.

Bem Sex Role Inventory (BSRI, 1974). The BSRI is a widely used self-assessment tool designed to measure gender identity. It is comprised of set of 60 items that assess traits or behaviours traditionally associated with either masculinity or femininity. Given that participants took part in a larger study, only two of the items were administered. Participants were asked to rate the degree to which children identified with both “Masculine” and “Feminine” traits.

Children provided ratings based on five-point scales (i.e., “never” to “almost always”) across two time points.

Results

Data Integrity

Prior to all statistical analyses, data were screened according to recommendations by Kline (2009). Variables were standardized, and values above or below three standard deviations of the mean were identified in order to detect the presence of outliers. According to these standards, there were no outliers present in the current dataset. Additionally, data were examined for normality. All variables of interest had a skew below 3, and values of kurtosis below 10, indicating that the data were normally distributed (Kline, 2009). In an effort to address missing data, a multiple imputation method was adopted wherein the distribution of the observed scores were used to estimate multiple values that reflect the statistical uncertainty around the true value. These values were averaged to represent a single data point and were subsequently used in the analysis of interest.

Gender Identity Typologies

Variables of Interest. Gender identity typologies were created based on items assessing the degree to which children identified with both “masculine” and “feminine” traits derived from the Bem-Sex Role Inventory (Bem, 1981). Children provided ratings based on five-point scales (i.e., “never” to “almost always”) across two time points (i.e., Time 1 and Time 2).

Subsequently, participants’ ratings on items assessing masculinity and femininity were classified into two categories: same- and other-gender similarity categories. These were created based on demographic data of participants’ sex. Items assessing masculinity and femininity were dichotomized using median splits. “High” and “low” values on ratings of masculinity and

femininity were then used to create same- and other-gender similarity groups. For example, femininity ratings provided by female participants that fell above the median were categorized in the "same-gender" group, and masculinity ratings provided by female participants that fell below the median were categorized in the "other-gender" group. The reverse was applied, wherein femininity ratings provided by female participants that fell below the median were categorized in the "other gender" group and so forth. These scores were calculated at each time point.

K-Means Cluster Analyses. Non-hierarchical K-means cluster analyses (MacQueen, 1967) were conducted to develop typologies of gender identity. Generally, the K-means cluster analysis procedure aims to identify groups of cases that are relatively similar based on a select number of characteristics. These analyses require that the number of clusters are specified ahead of time and are computed using an algorithm for a large number of cases. Consistent with results reported by Martin and colleagues (2017), four-cluster solutions were calculated for each sample. The four-cluster solutions were replicated with 50% and 75% random samples of the data. Frequency distributions of gender identity clusters across samples are presented in *Table 3.*

Sample A (N* = 820*). As expected, four identity clusters were generated. They are ordered here in sequence from most to least represented in the current sample and are depicted in *Figure 1*. The following clusters were observed: (i) Own-gender similarity (Own-GS 57.7%; 51.8% male; M_{age} = 10.3 years, *SD* = 1.09); (ii) Both-gender similarity (Both-GS 20.4%; 47.3% male; M_{age} = 10.17 years, *SD* = 1.15); (iii) Neither-gender similarity (Neither-GS 12.7%; 58.7% male; M_{age} = 10.43 years, *SD* = 1.16); (iv) Other-gender similarity (Other-GS 9.3%; 44.7% male; M_{age} = 10 years, *SD* = 1.16). To validate the distinction between gender clusters, a multivariate analysis of variance was conducted to compare groups on same- and other-gender scores. Statistically significant effects of same-gender, $F(3, 816) = 455.92$, $p < .001$, $\eta 2 = .86$, and other-gender

scores, $F(3, 816) = 562.22$, $p < .001$, $\eta 2 = .86$ were observed. In short, results reflected that gender groups differed from each other on same- and other- gender scores.

Sample B (N = 351). Similar to Sample A, K-Cluster Means analyses reveled four gender identity clusters across both time points. Results are summarized below and depicted in *Figure 2*.

Time 1. The following clusters emerged and organized according to most to least represented in the subsample: (i) Both-gender similarity (Both-GS 37.9%; 47.36% male; M_{age} = 10.5 years, SD = 1); (ii) Own-gender similarity (Own-GS 30.2%; 8.4% male; M_{age} = 10.5 years, SD = 1); (iii) Other-gender similarity (Other-GS 20.5%; 97.2% male; M_{age} = 10.5 years, SD = 1); (iv) Neither-gender similarity (Neither-GS 11.4%; 67.5% male; M_{age} = 10.5 years, SD = 1). Multivariate analyses conducted with same- and other-gender scores revealed distinct gender groups. In particular, the following statistically significant main effects were identified: i) main effect of same-gender, $F(3, 347) = 491.51$, $\eta 2 = .81$; and ii) main effect of other-gender, $F(3, 347) = 419.17$, $\eta 2 = .78$.

Time 2. A total of four gender identity clusters were identified and ordered similarly to what is reported above: (i) Own-gender similarity (Own-GS 48.1%; 52.1% male; M_{age} = 10.5 years, SD = 1); (ii) Neither-gender similarly (Neither-GS 29.1%; 49.1% male; M_{age} = 10.5 years, SD = 1); (iii) Both-gender similarly (Both-GS 19.7%; 37.68% male; M_{age} = 10.5 years, SD = 1); (iv) Other-gender similarity (Other-GS 3.1%; 45.45% male; M_{age} = 10.5 years, SD = 1). Similarly, multivariate analyses revealed distinct gender groups. Main effects of same-gender, $F(3, 347) = 337.73$, $\eta 2 = .75$, and other-gender, $F(3, 347) = 490.98$, $\eta 2 = .81$, emerged.

Relation of Gender Identity Clusters to Contextual Variables

A series of chi-square tests of independence were employed across samples to explore the associations between gender identity clusters (i.e., Own-gender similarity, Both-gender

similarity, Neither-gender similarity, Other-gender similarity), and contextual variables (i.e., sex, SES, geographic location). *Table 4* presents the observed frequencies of children across gender identity and sociodemographic categories.

Sample A. A series of chi-square tests of association were conducted to examine whether gender identity cluster were associated with the following categorical variables: (i) sex; (ii) SES; and (iii) and geographic location; and, to explore interactions among these variables.

The results showed statistically significant associations between gender identity clusters and two of the three contextual variables. There was no statistically significant association that was observed between gender identity and sex, $\chi^2(3) = 4.66$, $p = .20$, Cramer's V = .08. However, statistically meaningful associations emerged with SES and geographic location. For gender identity and SES, moderate effects emerged, $\chi^2(3) = 66.51$, $p < .001$. Cramer's V = .29. Moderate effects were similarly observed for gender identity and geographic location variables, $\chi^2(3) = 48.02$, $p < .001$, Cramer's V = .24.

Certain gender identity clusters are more prevalent depending on which socioeconomic or demographic group to which they belong. That is, a higher proportion of children in higher socioeconomic groups identified with Own-GS ($n = 294$; 62.1%) and Other-GS ($n = 46$; 60.5%), whereas a higher proportion of children in higher SES groups identified with Both-GS ($n = 121$; 72.5%) and Other-GS ($n = 61$; 58.7%). Furthermore, a higher proportion of children attending schools in Barranquilla identified with Same-GS ($n = 305$; 65%) Other-GS ($n = 50$; 65.8%), whereas a higher proportion of children attending schools in Montreal identified with Neither-GS ($n = 72$; 69%). Similar proportions of children attending schools in Barranquilla and Montreal identified with Both-GS (Barranquilla: $n = 80$; 47%; Montreal: $n = 87$; 52%).

As there were statistically significant relations between gender identity, SES, and geographic location a layered chi-square test was utilized to investigate the interaction among these variables. Indeed, the analysis revealed statistically significant associations, suggesting that the relations between gender identity and SES vary across geographic locations, Barranquilla: $\chi^2(3) = 83.85$, $p < .001$, Cramer's V = .42; Montreal; $\chi^2(3) = 7.82$; Cramer's V = .15, $p = .05$. In summary, statistically significant associations emerged particularly among children from Barranquilla, in that higher proportions of children from higher SES groups identified with Own-GS (n= 205; 67.20%) and Other-GS (n = 38; 76%) whereas higher proportion of students from lower SES group identified with Both-GS (n= 69; 86.25%). Results are presented in *Figure 3.*

Sample B. Akin to Sample A, chi-square tests of association were employed to examine links between gender identity clusters and contextual variables. Overall, gender identity clusters were statistically associated with (i) sex, $\chi^2(3) = 142.26$, $p < .01$, Cramer's V = .64; (ii) SES, $\chi^2(3) = 11.76$, $p < .01$, Cramer's V = .18; and (iii) geographic group, $\chi^2(3) = 18.79$, $p < .01$, Cramer's V = .23.

The distribution of children across gender identity categories and contextual variables are as follows. For sex, a larger proportion of females identified with Same-GS (n = 97; 91.5%) and Both-GS (n = 70; 52%), whereas a larger proportion of males identified with Neither-GS (n = 27; 67.5%) and Other-GS (n = 70; 97%). For SES, higher frequencies of children belonging to high socioeconomic groups were categorized as having Same-GS (n = 58; 54.7%), whereas higher frequencies of children belonging to low sociodemographic groups were categorized as having Both-GS (n = 86; 64.7%), Neither-GS (n = 27; 67.5%), and Other-GS (n = 51.3%). For geographic location, a larger distribution of children who attended schools in Barranquilla identified with Same-GS (n = 65, 61.3%) and Neither-GS (n = 27; 67.5%), whereas a larger

distribution of children who attended schools in Montreal identified with Both-GS (n = 78; 58.6%) and Other-GS (n = 45; 62.5%).

Given the statistically significant associations between gender identity, sex, SES, and geographic location, a layered chi-square test was employed to investigate how these factors interacted with one another, considering their combined influence within the data. The analysis suggests that the relations between gender identity and sex vary across socioeconomic groups, Low SES: $\chi^2(3) = 7.22$, Cramer's V = .19, $p = .065$; High SES: $\chi^2(3) = 8.61$, Cramer's V = 2.37, $p < .05$. In sum, the results suggest statistically significant association among the High SES group, in that a larger proportion of males identified with Both-GS (n= 51; 56.7%), whereas a larger proportion of females identified with Same-GS (n = 29; 69%). Results are visually depicted in *Figure 4.*

Discussion

The present study was driven by three research questions. Firstly, we aimed to investigate the replicability of a dual-identity model of gender among children across two culturally diverse samples. Secondly, we sought to explore the stability of gender identity clusters based on this model over the course of the school year. Finally, we investigated how contextual factors influence its expression within these samples. To address these, data were collected from two independent samples, Sample A and Sample B, consisting of children attending schools in Barranquilla, Colombia and Montréal, Canada. Notably, in Sample B, data were gathered at two distinct time points, facilitating a longitudinal research design to assess changes in gender identity clusters over time. As a result, three important research contributions to the field of gender identity development can be highlighted. Indeed, the authors provided more evidence to suggest the replicability of the Martin et al., 2017 dual-identity model of gender to school-age

children and the generalizability of this model to two cross-national samples. The current set of findings also provides unique insight into longitudinal changes of children's perceived gender identities across the course of the school year. Finally, results highlight the influence of socioeconomic and demographic factors on the expression of gender identity in youth.

Replicability and Generalizability of Dual-Identity Framework of Gender

In contrast to traditional models of gender that rely on features related to adherence to gender norms (Zucker & Bradley, 1995), novel conceptualizations focus on felt typicality—the connection between one's own and other gender. Indeed, research highlights that during the school-age period, children rely on comparisons with both "boy" and "girl" features to form their gender identity (Martin et al., 2017). The present study reveals that children incorporate both feminine and masculine attributes based on items derived from the BSRI (1974) into their gender identity, underscoring the replicability of this dual-identity framework. Notably, this framework's replication across two cross-national samples in Barranquilla, Colombia, and Montréal, Canada, as well as over time, highlights its robustness across diverse cultural and longitudinal contexts.

Specifically, through K-Cluster means analyses, our investigation identified four distinct clusters of gender identity: (i) Own-gender, (ii) Other-gender, (iii) Both-gender, and (iv) Neither-gender groups that elucidate varying levels of perceived similarity to both feminine and masculine features. Analysis of variance confirmed the distinction of these groups, in that the mean levels of similarity to own and other genders were statistically different across all four gender identity clusters. This was true across Samples A and B, and across both time points in Sample B. Moreover, similar to what was reported by Martin and colleagues (2017), findings also indicated that felt similarity to own and other genders were not strongly negatively related. While the relation among felt similarity to own and other genders were statistically significant,

Pearson r coefficients were moderate in strength and ranged from -.28 to -.44. This further suggests that components of children's gender identity, characterized by masculine and feminine attributes, may not exist as starkly separate constructs but instead demonstrate a complex and interconnected relationship.

Changes in Gender Identity Clusters Across Time

Do children shift in how they identify with same and other-gender traits across the school year? Evidence from longitudinal data suggest that they do—in part. First, correlational data among same- and other-gender similarity variables across time suggest divergent patterns of association. The levels in which children perceived their same-gender similarity appeared to be more stable across time, relative to levels of perceived other-gender similarity. In other words, children change the extent to which they identify with other-gender similarity across the school year, while same-gender levels remain relatively stable. These changes appear to be reflected in the frequency statistics of gender identity clusters across time. Post-hoc analyses revealed that the mean level of children in each gender identity cluster differed significantly across both time points. Interestingly, the largest differences observed were within the other-gender identity group.

There are two possible explanations for these shifts. First, developmental researchers theorized and gathered evidence to suggest that the ways in which children think about their gender evolve over time. Second, as children move into middle childhood, their gender-related self-concept becomes more complex and integrates their understanding of gender typicality, gender contentedness, intergroup bias and felt pressure to conform to gender norms (Egan & Perry, 2001).

The core cognitive-developmental theories of gender posit that children understand gender based on their knowledge of the sexes and their environment (Kohlberg, 1966; Liben & Bigler, 2002; Martin & Ruble, 2004). This makes sense given that gender is the earliest identity and social category to emerge in development (Lewis & Brooks-Gunn, 1979), and is largely influenced by social messages young children receive about stereotyped behaviour (Zosulus et al., 2009). Children's understanding of the self, gender and stereotypes become more sophisticated as children grow older, and so gender identity trajectories have been theorized to follow three critical phases—beginning awareness, rigidity, and flexibility (Ruble, 1994; Ruble et al., 2007; Trautner, 1992; Trautner et al., 2003; Welch-Ross & Schmidt, 1996). Children typically demonstrate increased flexibility in endorsing stereotypes by age 7, showing a notable shift in attributing behaviours or traits to both sexes (Ruble et al., 2007; Truatner et al., 2005). The degree of flexibility varies, influenced by cognitive factors such as beliefs about gender constancy and categorization skills, as well as experiential factors such as family and peer socialization (Trautner, Gervai & Németh, 2003). Together with the present set of findings, it appears that school-age children's understanding of gender, particularly how it integrates within their gender identity, is most flexible when considering felt similarity to the other gender. This implies that changes in how children relate to traits typically associated with the opposite gender may have a notable influence on the development of their gender identity during middle childhood. These shifts are likely influenced by environmental cues and societal norms surrounding gender.

Key Sociocultural Influences that Shape Gender in Youth

The development of children's gender identities can be shaped by various contextual factors within their surroundings. Family dynamics, school environments, media representations,

cultural norms, and peer interactions have pivotal influences in shaping how children perceive and internalize gender roles and expectations (Martin & Rubel, 2010; Rubel et al., 2006). Evidence from the present study provides further support for these claims.

The authors noted the following trends across samples using chi-square tests of association and frequency statistics. Across both cross-national samples, SES and demographic location were statistically related to gender identity clusters. That is, these contextual factors influenced the distribution of children within each gender identity group. Of note, a statistically significant association was observed between sex and gender identity in one of two samples. Post-hoc analyses revealed that this may be attributed to equal frequency distributions among male (n = 152; 49.8%) and female (n = 153; 50.2%) students who endorsed same-gender identity—this group compared to other gender identity clusters was most represented in this subsample. As such, when conducting chi-square analyses separately for each subsample (i.e., Barranquilla and Montreal), a statistically significant association emerged for sex.

Diverse patterns emerged in the frequency distribution of children across the four gender identity clusters when considering children's biological sex, SES, and demographic locations. Broadly, two main themes are identified. Firstly, the frequency distribution of students endorsing other-gender identity varies across samples, notably with an increase observed in Sample B. Additionally, across SES and geographic location variables, a greater number of male students endorsed other-gender identity compared to females. Secondly, female students attending schools in Barranquilla from higher SES backgrounds, more frequently endorsed same-gender identity.

How can we integrate these findings with existing knowledge on gender? The disparity in the frequency distribution of students endorsing other-gender identity across samples may reflect differences in public awareness and discussions regarding gender, as well as shifts in its portrayal

in the media during the data collection period (early to mid-2000s). The mainstream media provide particularly powerful models of gender norms, in that they offer an abundant number of models that appear to be more “attractive” to youth (Greenwood, 2016, Ward 2020). Additionally, it shapes norms both directly, through individual models, and indirectly, through their impact on the values that parents, peers, and teachers adopt and transmit (Brown et al., 2005).

Moreover, classroom cultures hold profound influence on children's interactions with their peers and influence their perceptions of self (Drury, Bukowski, Velàsquez & Lopez, 2013; Kuzyk, Gendron, Lopez & Bukowski, 2022; Rubin, Bukowski, Bowker, 2015). Educators often strive to cultivate positive classroom environments that prioritize inclusivity, cooperation, and appreciation for individual differences (Creemers & Reezight, 1999). These core classroom values typically emphasize qualities such as patience, kindness, and empathy, which closely align with traits associated with femininity according to the BSRI (1974), such as being gentle, understanding, and compassionate. Consequently, males may find it more socially permissible to demonstrate feminine attributes within the classroom environment, which in turn may shape the extent to which they perceive feminine traits to be part of their gender identity. This may also be reinforced by their peers, as children frequently absorb social norms and values through their interactions and observations within the classroom, learning what behaviours are deemed acceptable or unacceptable within the peer group.

Finally, the authors found a higher proportion of females from high SES schools in Barranquilla endorsing same-gender identity compared to males. This unexpected trend prompts us to reconsider traditional gender stereotypes and perceptions of femininity. While we initially anticipated equal endorsement of same-gender identity among male and female students, the

observed frequency distribution challenges this assumption. This phenomenon may suggest that girls internalize societal messages about femininity to a greater extent or experience heightened pressure to conform to gender norms within high SES environments in Barranquilla. Further research examining these direct effects would provide more insight into the specific processes through which high SES environments in Barranquilla contribute to the differential endorsement of same-gender identity among male and female students.

Concluding Remarks

In sum, the present study demonstrates many strengths, particularly its generalizability across national sites, which offers valuable insight into the intersection of gender identity and socioeconomic factors within diverse and rich contexts. Additionally, its longitudinal design provides important perspectives on the development and stability of gender over time, while also allowing for cross-national comparisons in the frequency distribution of diverse gender identity profiles in youth. However, it is important to recognize that the observed variations across contexts in the frequency distribution of diverse gender identity profiles are likely attributable, in part, to classroom norms that either reinforce or challenge gender normative behaviour and potentially influence gender identity expression among school-age children. Future research should aim to directly assess pressure for conformity, as suggested by Egan and Perry (2001), and explore how such pressures shape the development of gender identity within classroom settings. By addressing these gaps, we can gain a deeper understanding of the complex interplay between classroom dynamics, societal influences, and gender identity formation in youth.

Table 1. *Descriptive Statistics across Samples A and B*

Descriptive Variables	Sample A (*n*)	Sample A (%)	Sample B (*n*)	Sample B (%)
Sex				
Female	*n* = 401	48.9%	*n* = 169	48%
Male	*n* = 419	51.1%	*n* = 182	52%
Geographic location				
Barranquilla	*n* = 467	57%	*n* = 174	49.5%
Montréal	*n* = 353	43%	*n* = 177	50.5%
SES				
Middle/High SES	*n* = 429	52%	*n* = 153	44%
Low SES	*n* = 391	48%	*n* = 198	56%

Table 2. Zero-order Correlations among Variables of Interest

Variables	1	2	3	4	5	6	7
Sample A ($N = 820$)							
1. Sex	-	.04 $p = .24$	.14* $p < .001$	-.02 $p = .66$	.043 $p = .22$	--	--
2. Place		-	-.12** $p = .001$	-.12** $p < .001$	.04 $p = .23$	--	--
3. SES			-	.03 $p = .35$	-.22** $p < .001$	--	--
4. Same-gender Identity				-	-.40** $p < .001$	--	--
5. Other-gender Identity					-	--	--
Sample B ($N = 351$)							
1. Sex	-	-.01 $p = .87$	.01 $p = .89$	.62** $p < .001$	-.49** $p < .001$	.05 $p = .40$	.06 $p = .25$
2. Place		-	.02 $p = .69$	-.15** $p = .01$	.15** $p = .01$	-.09 $p = .08$	.07 $p = .20$
3. SES			-	.03 $p = .61$	-.01 $p = .81$	.10 $p = .08$	-.19** $p < .001$
4. Same-gender Identity Time 1				-	-.33** $p < .001$	.07 $p = .16$	.19** $p < .001$
5. Other-gender Identity Time 1					-	.04 $p = .44$	.12* $p = .03$
6. Same-gender Identity Time 2						-	-.28* $p < .001$
7. Other-gender Identity Time 2							-

Table 3. Frequency Statistics for Gender Identity Clusters

	Own-gender similarity (*n;* %)	Both-gender similarity (*n;* %)	Neither-gender similarity (*n;* %)	Other-gender similarity (*n;* %)
Sample A				
Time 1	473; 57.7%	167; 20.4%	104; 12.7%	76; 9.3%
Sample B				
Time 1	106; 30.2%	133; 37.9%	40; 11.4%	72; 20.5%
Time 2	169; 48.1%	69; 19.7%	102; 29.1%	11; 3%

Table 4. Frequency Statistics for Gender Identity Clusters Across Sociodemographic Variables

	Own-gender similarity (*n;* %)	Both-gender similarity (*n;* %)	Neither-gender similarity (*n;* %)	Other-gender similarity (*n;* %)
Sample A				
Sex				
Male	245; 51.8%	79; 47.3%	61; 58.7%	34; 44.7%
Female	228; 48.2%	88; 52.7%	43; 48.2%	42; 55.3%
SES				
High	179; 37.8%	121; 72.5%	61; 58.7%	30; 39.5%
Low	294; 62.2%	46; 27.5%	43; 41.3%	46; 60.5%
Geographic location				
Barranquilla	305; 64.5%	80; 47.9%	32; 30.8%	50; 65.8%
Montreal	168; 35.5%	87; 52.1%	72; 69.2%	26; 34,2%
Sample B				
Sex				
Male	50; 49%	88; 52.1%	26; 37.7%	5; 45.5%
Female	52; 51%	81; 47.9%	43; 62.3%	6; 54.5%
SES				
High	42; 41.2%	90; 53.3%	18; 26.1%	3; 27.3%
Low	60; 58.8%	79; 46.7%	51; 73.9%	8; 72.7%
Geographic location				
Barranquilla	34; 33.3%	94; 55.6%	39; 56.5%	7; 63.6%
Montreal	68; 66.7%	75; 44.4%	30; 43.5%	4; 36.5%

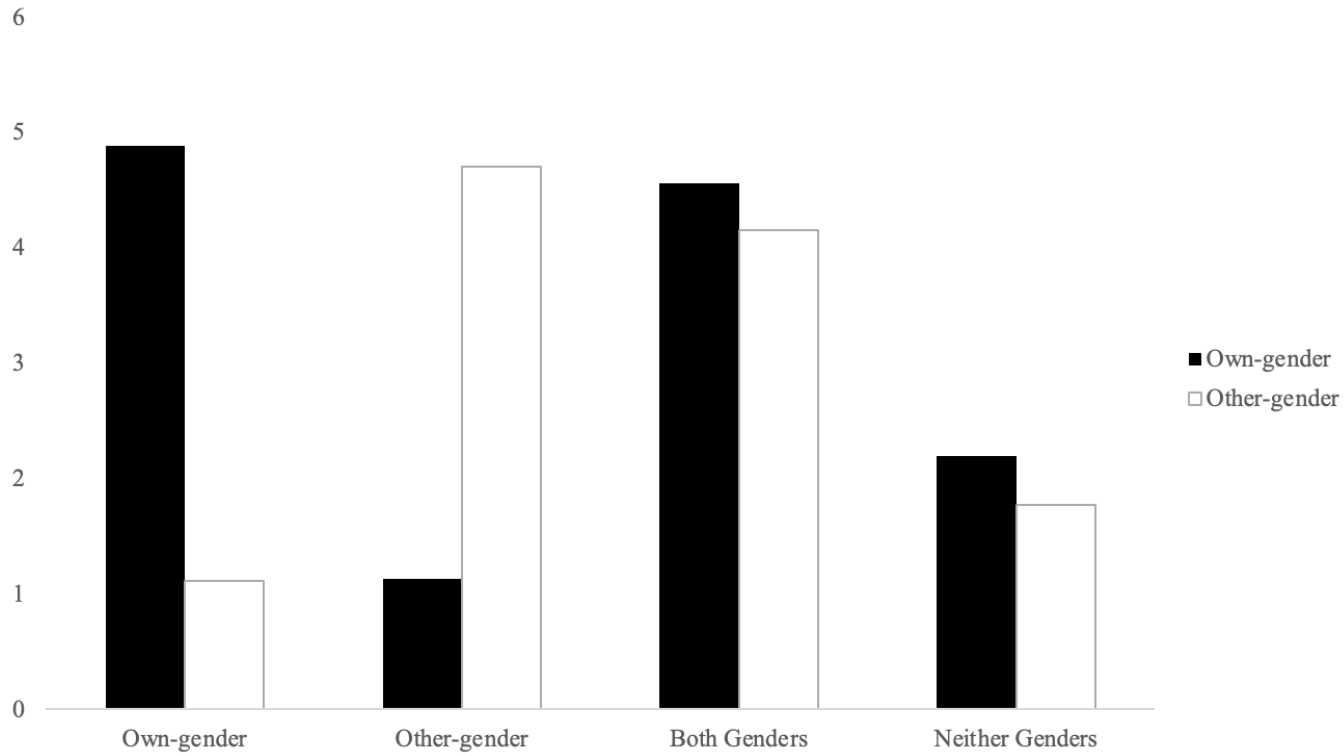

Figure 1. Sample A gender identity clusters derived from K-Cluster Means analysis.

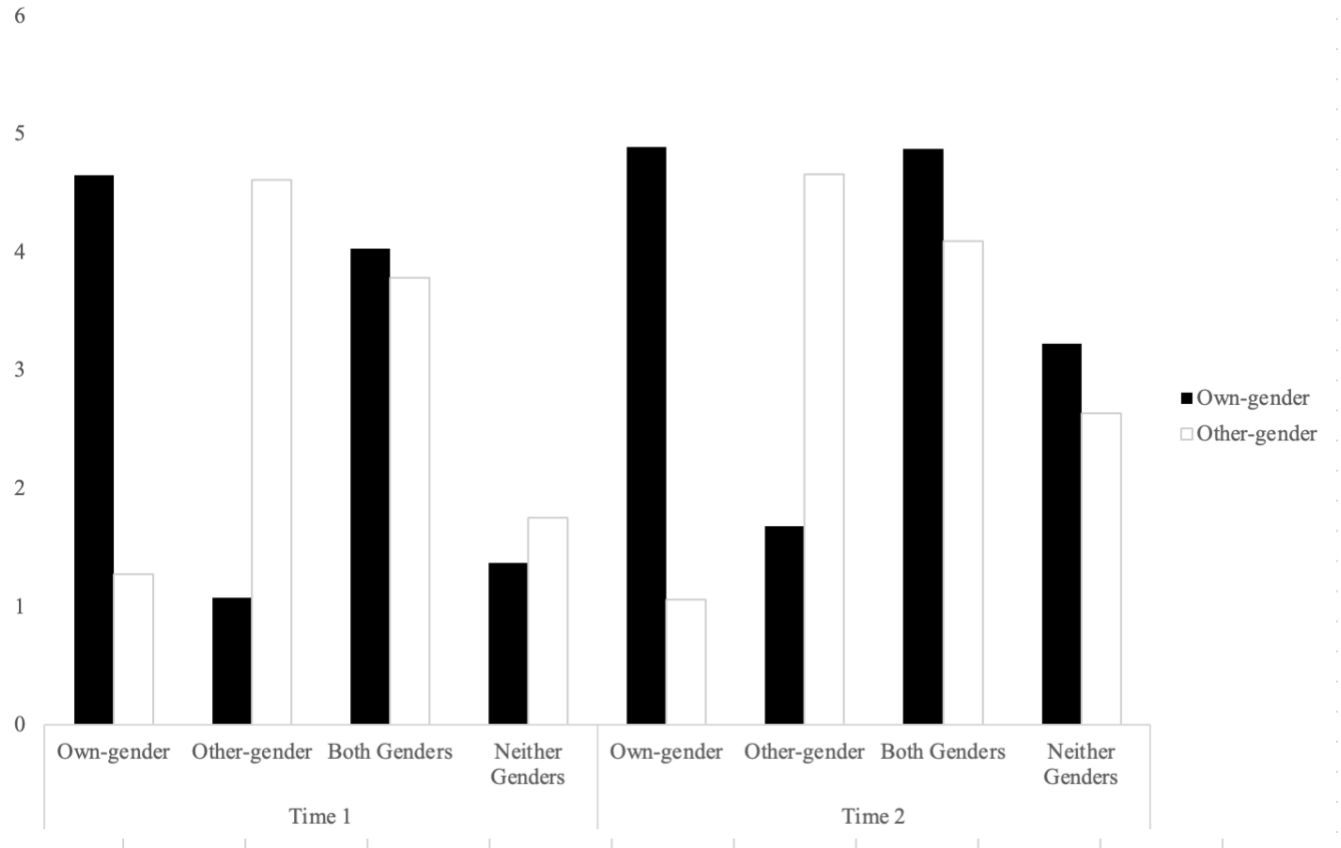

Figure 2. Sample B gender identity clusters derived from K-Cluster Means analysis across time.

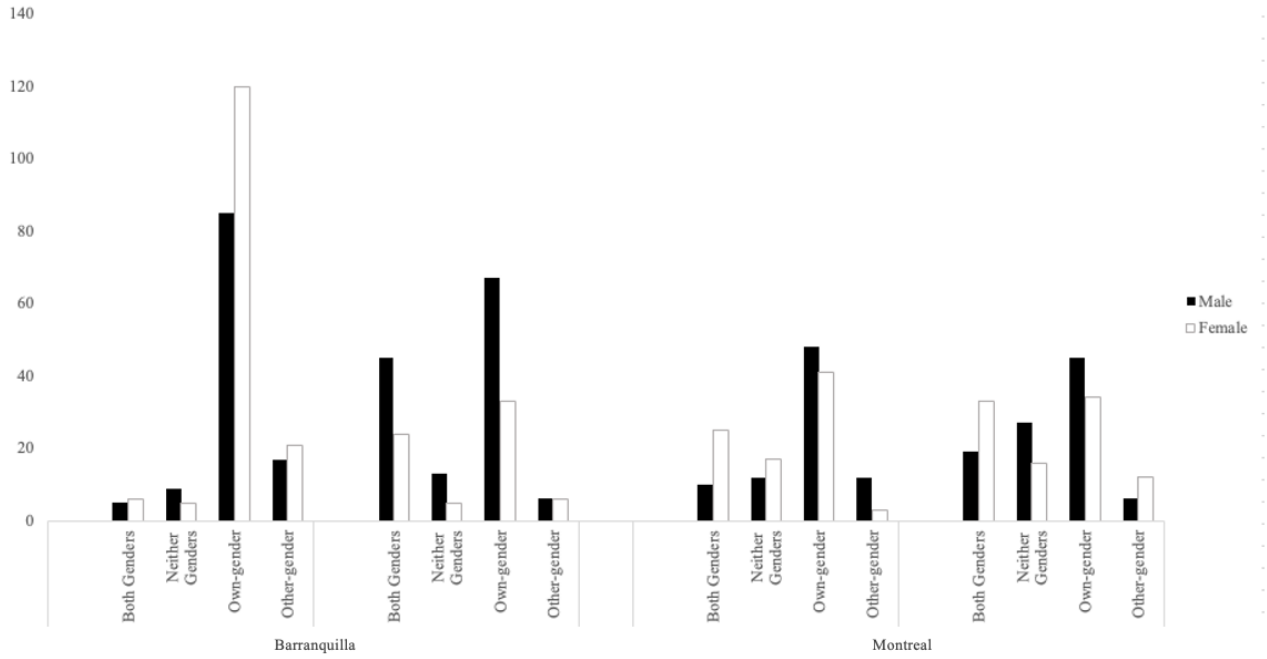

Figure 3. Sample A gender identity cluster frequencies grouped by sex and SES based on chi-square tests of association.

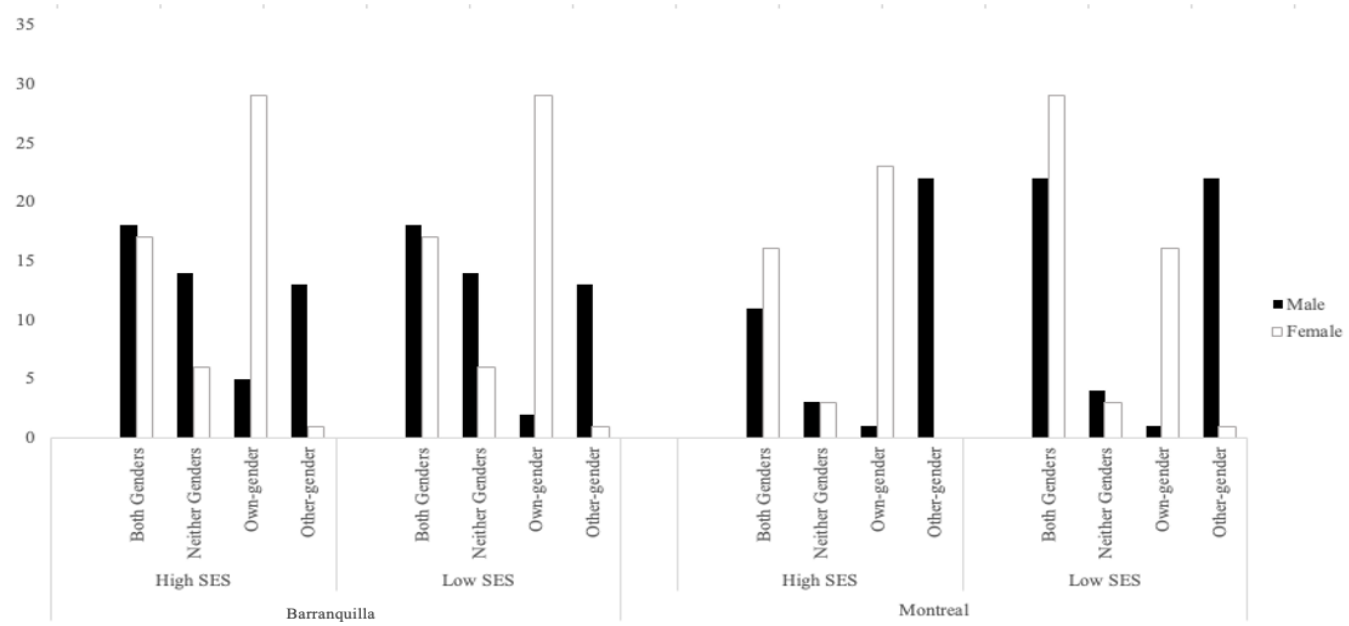

Figure 4. Sample B gender identity cluster frequencies grouped by sex and SES based on chi-square tests of association.

Study 2: Intersection of Gender Pressure, Anxiety and Victimization Among Gender Diverse Youth

Olivia Kuzyk, Luz Stella-Lopez, William M. Bukowski
Concordia University
Universidad del Magdelena

Abstract

The present study examined the relations between gender identity, peer victimization, gender pressure, and anxiety among 351 fifth and sixth-grade students in Barranquilla, Colombia, and Montréal, Canada. Participants were categorized into four gender identity clusters based on their identification with masculine and feminine traits, consistent with the gender clusters developed by Martin et al. (2017). Children in the Both-Gender Similarity group consistently reported the highest levels of peer victimization, anxiety, and gender pressure across both time points. Similarly, the Neither-gender Similarity group showed elevated levels of these factors compared to other clusters. A statistically significant three-way interaction emerged in the Neither-gender Similarity group, revealing that the relationship between anxiety, gender pressure, and peer victimization was more pronounced in Barranquilla than in Montréal. Findings suggest that sociocultural contexts play a significant role in shaping these dynamics.

Intersection of Gender Pressure, Anxiety and Victimization Among Gender Diverse Youth

Gender expression and identity play pivotal roles in shaping children's social interactions and psychological well-being. Gender expression relates to the way children express themselves in stereotypically masculine and feminine ways, through their appearance, interests, and friendships (Warren, Goldsmith & Rimes, 2019). Others' perception of an individual's gender identity—the internal sense of being a boy, girl, neither of these, both or another gender (Ristori & Steensma, 2016)—is often based on these attributes. Not surprisingly, gender expression and identity are largely influenced by social and cultural norms that define "acceptable" and "unacceptable" gender-related appearances, beliefs and behaviour.

Dual-Identity Framework and Psychosocial Adjustment

We endorse a multidimensional, dual-identity view of gender in childhood (Bukowski, Lopez, Commisso, & DeLay, under review; Egan & Perry, 2001; Martin et al., 2017; Nielson, Schroeder, Martin & Cook, 2020; Zosuls, Andrews, Martin, England & Field, 2016). That is, children rely on comparisons with boy and girl genders in order to form their own gender identity (Martin et al., 2017). In a seminal study, school-aged children responded to items about their perceived similarity to own-gender and other-gender peers (Martin et al., 2017). Results demonstrated that four gender identity typologies exist in an American sample based on various combinations of own- and other-gender similarity (Martin et al., 2017). Approximately half of the children in the sample felt similar to their other gender group, both or neither of the gender groups (Martin et al., 2017). Gender identity typologies were also differentially associated with social functioning and well-being outcome measures (Martin et al., 2017). Results indicated that: (i) children who more heavily identified with their own gender group reported more positive outcomes; and (ii) those who identified with the other-gender group or neither of the gender

groups reported low expectations for belonginess with same-gender peers and low self-esteem (Martin et al., 2017). Broadly, these patterns were replicated in Canadian and Colombian samples of school-aged children (Bukowski et al., under review). Together, these findings highlight children's need to affiliate with their peers and develop a sense of belonging, and the significant impact on their psychological well-being.

Gender Nonconformity and Peer Victimization

Children who demonstrate gender nonconforming behaviour have been shown to experience more negative peer interactions compared to gender typical youth (Cohen-Kettenis et al., 2003; Zucker, Bradley, & Sanikhani, 1997; Zucker et al., 2012). That is, gender non-conforming youth are at higher risk for peer-victimization and exclusion (Drury et al., 2013; Kochel et al., 2012; Young & Sweeting, 2004). Beginning in early childhood, gender variant behaviours are evaluated negatively by peers (e.g., Carter & McCloskey, 1984; Levy, Taylor, & Gelman, 1995; Martin, 1989; Ruble et al., 2007; Signorella, Bigler, & Liben, 1993; Stoddart & Turiel, 1985). Early displays of this intolerance may be reflected in comments like "boys don't play with dolls" (Smith & Juvonen, 2017). However, the social repercussions of deviating from sociocultural norms increase with age (Carter & McCloskey, 1984; Zosuls et al., 2016). This is not surprising given that peers become increasingly important as they enter adolescence and are particularly sensitive to negative social messages that dictate what is not tolerated within a particular group or setting (Juvonen & Galvan, 2009).

In general, gender nonconforming boys are more susceptible to victimization and exclusion compared to girls (Zosuls et al., 2016). Early socialization experiences that attenuate boys' displays of gender nonconformity and increased pressures for gender conformity help to explain this discrepancy. Although there are developmental shifts in risk for peer

victimization/exclusion for gender nonconforming boys and girls, it appears that boys, throughout middle childhood, are more closely monitored for gender non-conformity by their peers (Zosuls et al., 2016). That is, girls may be more frequently sanctioned for gender nonconforming presentations (Martin & Dinella, 2012), whereas boys who deviate from gender norms may not be permitted as much freedom (Zosuls et al., 2016). The effects of early peer socialization likely discourage boys from displays of gender nonconformity despite potentially strong identification with the other gender and/or low identification with their same gender (Zosulus et al., 2016). As such, displays of gender variance among boys may be less common, which are reflected in lower prevalence rates in boys relative to girls (Steensma et al., 2018). Therefore, gender variant boys may not necessarily experience more victimization than girls, but are likely subject to harsher repercussions as a result of higher expectations to behave in gender normative ways (Carter & McCloskey, 1984; Fagot, 1977; Katz & Walsh, 1991; Rachkowski & O'Grady, 1988).

Psychological Impact and Mediating Factors

Where children fall on the gender conformity spectrum relative to their same-gender peers have important consequences for psychological functioning (Zosuls et al., 2016). Very frequently, gender variant youth suffer from the effects of social stigma and ostracizing, as well as emotional and physical violence leading to significant adjustment difficulties. These effects on children's mental health have been of interest to developmental psychologists for decades and have consistently pointed to the emergence of internalizing difficulties, such as depression and anxiety (e.g., Bates, Bentler & Thompson, 1973; 1979; Coates & Person, 1985; Rekers & Morey, 1989; Zucker & Bradley, 1995; Cohen-Kettenis, Owen, Kaijser, Bradley & Zucker, 2003; Steensma et al., 2014). Children who are low in gender typicality also present with low self-

worth and are at greater risk for suicide (Carver, Yunger, & Perry, 2003; Russell, Kosciw, Horn, & Saewyc, 2010; Yunger, Carver & Perry, 2004). Importantly, the psychological functioning among this population is quite variable (Zucker, Wood, & VanderLaan, 2013) and appears to be mediated by social (in)tolerance of gender non-conformity (Ristori & Steensma, 2016).

Albeit limited, there is some evidence for the mediating role of peer victimization on gender nonconformity and adjustment difficulties. Roberts and colleagues (2013) reported concurrent evidence to support the mediating relation between gender typicality and depressed affect in an American sample of adolescents and adults. Later, Jewell and Brown (2014) replicated these findings with a more age-specific sample of young adolescents. Longitudinal data also highlight the importance of peer victimization on adjustment outcomes (e.g., social anxiety) after controlling for initial levels of well-being (Smith & Juvonen, 2017). Although this work offers insight into how peer experiences place gender nonconforming youth at higher risk for internalizing difficulties, extant research often fails to consider contextual variables that shape this association.

Sociocultural Context

The sociocultural context could offer further insight about how and why gender nonconforming children are targeted for maltreatment and the impact on their well-being. Anthropological and sociological studies reveal that cultures vary significantly in the structure of their gender systems and the attitudes toward gender variance (Newman, 2002). These may involve culture-specific gender stereotypes, social status of genders, and different patterns of gender socialization. Given differences across cultural groups, it is likely that children also vary in the extent to which they subscribe to masculine and feminine features and how this is accepted within the peer network (Ruble et al., 2007). However, much of the theory and evidence in the

literature has been heavily based on Western views of gender and samples of Caucasian, middle-class youth, limiting its generalizability.

Of these few cross-cultural studies, findings do show differences in multidimensional gender identity models across culture as well as ethnicity/race. Corby, Hodges and Perry (2007) underscore the limited applicability of the Egan and Perry (2001) model of gender identity and its relation to psychological adjustment in a sample of Black and Hispanic children. Other differences in this model were observed in a sample of Chinese children relative to their Western counterparts (Yu & Xie, 2010). For example, gender contentedness (i.e., being satisfied with one's own gender) appeared to exert less influence on psychological adjustment in Chinese children (Yu & Xie, 2010). The authors speculate that this is largely reflective of East Asian cultural norms that view self-contentment negatively and related to a lack of motivation for future improvement (Bond & Chi, 1997; Heine et al., 1999; Pyszczynski et al., 1991). Thus, the extent to which gender identity influences adjustment may be largely dependent on the messages about gender that children experience (Corby et al., 2007). As illustrated above, some of these may be reflections of culture, such as particular family practices, socioeconomic status, religion, neighbourhood, peer groups and media exposure (Corby et al., 2007). Nevertheless, the extent to which gender identity leads to maladjustment in childhood may depend on the degree to which maladaptive gender norms are reinforced and internalized (Corby et al., 2007).

Gender Pressure and Socialization Agents

Gender pressure refers to the societal, cultural, and interpersonal expectations and norms that influence individuals to conform to traditional gender roles, behaviors, and expressions (Connell, 2005). It encompasses the implicit and explicit messages conveyed by various socialization agents, including family, peers, media, and institutions, regarding how individuals

should think, act, and feel based on their gender (Egan & Perry, 2001). Gender pressure manifests as feelings of obligation to adhere to stereotypical masculine or feminine characteristics, interests, and roles, often leading individuals to modify their behaviour to align with societal norms (Skinner et al., 2018). Understanding the intricate interplay between gender pressure, gender typicality, and adjustment outcomes is essential for gaining insights into how the social dynamics influence the development and expression of gender identity in youth. Research has revealed nuanced associations between gender pressure and gender typicality. Despite the prevalence of societal expectations regarding gender roles, studies utilizing unidimensional measures of gender typicality have often failed to find consistent correlations with felt pressure to conform to gender norms (Pauletti et al., 2017; Cook et al., 2019). While some studies have reported statistically significant and positive correlations between own-gender typicality and felt pressure (Drury et al., 2013; Leaper & Brown, 2008), others have found conflicting results or no significant relation at all (Kornienko et al., 2016). Moreover, the influence of different socialization agents on gender identity development further complicates this relation (Kane, 2006).

One notable study by Nielson et al. (2020) employed a dual identity framework to investigate the interplay between gender pressure, gender typicality, and adjustment outcomes in youth. Their findings replicated previous research, indicating that male adolescents felt more pressure than their female counterparts across various sources, including self, peers, and parents. Furthermore, individuals who felt more similar to their own gender and less similar to the other gender reported significantly higher levels of felt pressure. Interestingly, adolescents characterized by high own-gender similarity and low other-gender similarity reported significantly higher levels of pressure compared to those with different typologies. This study

highlights the importance of considering multiple dimensions of gender identity when examining the relation between gender pressure, gender typicality, and adjustment outcomes in youth.

Current Study

The present study was driven by two primary research questions. Firstly, we aimed to investigate variations in children's self-reported levels of victimization, gender pressure, and anxiety across different gender identity clusters over the course of a school year. Specifically, we anticipated that children who exhibit more nonconforming behaviour, as indicated by previous research (Ruble et al., 2006; Fabes et al., 2004), would experience more negative peer interactions. Therefore, we hypothesized that the gender atypical group would report higher levels of victimization, gender pressure, and anxiety, while the gender typical group would report the least. Secondly, we sought to explore how the interaction between anxiety and gender pressure, moderated by socioeconomic status (SES) and geographic location, influenced peer victimization across these clusters. Given the exploratory nature of this objective, we hypothesized that the effects of gender pressure and anxiety would be strongest for gender atypical groups in demographics that adhere more strongly to gender norms, thereby creating more gender pressure. This hypothesis is informed by research indicating that gender socialization processes can differ across cultures and contexts, potentially influencing the development of anxiety-related behaviors and thoughts (Ruble et al., 2006; Mehta & Strough, 2009). Furthermore, studies have shown that felt pressure for gender conformity can predict higher degrees of gender dysphoria and negative mental health outcomes, particularly for individuals who do not conform to gender norms (Klennert, 2023). To address these questions, data were collected from a diverse sample of children attending schools in Barranquilla, Colombia, and Montréal, Canada, at two distinct time points.

Method

Participants

The sample included students from fifth, and sixth grades attending coeducational schools in Barranquilla, Colombia, and Montréal, Québec, with a total sample size of 351. These students ranged in age from 10 to 12 years and came from various neighborhoods representing both lower-middle and upper-middle class backgrounds. Data collection took place during the academic year 2015-2016.

In Barranquilla, neighborhood socioeconomic status was evaluated using a six-tier estrato scale, where '1' indicated very low SES and '6' signified very high SES. One school served students from estrato 1 and 2 neighborhoods, classified as "low SES," while another school catered to those from estrato 5 and 6 neighborhoods, labeled as "middle/high SES." Conversely, in Montréal, SES assessment relied on average family income within each school. Parents disclosed income information for each household member over the previous year. A composite income score was derived by totaling all family incomes. Notably, there were substantial SES differences among schools. One school had an average family income of $36,027, whereas the other two schools had average incomes of $68,400 and $79,194, respectively. Comparative analysis with data from the 2001 Canadian census showed that the first school's income was notably below the provincial average of $59,296, while the latter two exceeded it. Accordingly, schools were categorized as "low" or "middle/high" SES for this study's purposes.

Consistent with Kuzyk et al., (under review), participants were categorized into four gender identity clusters at two time points. Gender identity typologies were developed by assessing the extent to which children identified with both "masculine" and "feminine" traits, based on items derived from the Bem Sex Role Inventory (Bem, 1981). At Time 1, the

distribution was as follows: own-gender similarity (*n* = 106), both-gender similarity (*n* = 133), neither-gender similarity (*n* = 40), and other-gender similarity (*n* = 72). At Time 2, the distribution shifted: own-gender similarity (*n* = 169), both-gender similarity (*n* = 69), neither-gender similarity (n = 102), and other-gender similarity (*n* = 11). Frequency statistics for gender identity clusters across sociodemographic variables are presented in Table 5.

Procedure

At the beginning of the school year, potential participants were informed about the study and provided with an information letter along with a consent form for their parents to complete. Only adolescents who returned the signed consent form and provided verbal assent were allowed to participate. Data collection took place during the tenth week of the academic year, with participants being assessed twice, separated by an eight-week gap (referred to as Time 1 and Time 2).

To ensure accurate translation, the research team employed a three-step process: initially, the questionnaires were drafted in English, then they were translated into Spanish by Colombian translators with expertise in psychology and education, and finally, a different group of translators back-translated the Spanish version into English to maintain the intended meanings of the items throughout the translation process.

The questionnaires were administered in their classrooms using tablet computers. Using a five-point Likert scale ranging from 1 (never) to 5 (almost always), participants evaluated items measuring gender similarity, anxiety, gender pressure and peer victimization. Participants were asked to rate how well each statement generally described them, without reference to a specific time frame (e.g., past week or month). The present sample encompassed over 90% of the participant pool.

Measures

Demographic Items

During the data collection phase, demographic details such as participants' gender, age, and household income were gathered via a structured questionnaire. Additionally, geographic location was coded to facilitate analysis of contextual influences. Specifically, Barranquilla was designated with a code of -1, and Montréal was designated with a code of 1.

Anxiety Items. Anxiety was assessed using three items. Participants rated how true each statement was for them on a 5-point scale. The items were: "I can feel nervous when I am with other kids in my class," "I worry about what other people might think of me," and "Sometimes I am afraid that some people in my class might make fun of me." Higher scores indicate greater levels of anxiety.

Gender Pressure Items

Gender pressure was measured using five items that assess perceived social expectations and pressures related to gender-typical behaviour. Two of the five items were sex-specific: For boys, "It would bother the kids in my school if I acted like a girl" and "I feel pressure to be like the other boys in the school." For girls, these items were adjusted to "It would bother the kids in my school if I acted like a boy" and "I feel pressure to be like the other girls in the school." The remaining three items were administered to all children regardless of gender: "It bothers the kids in my school when a boy acts like a girl," "Boys in my school feel that they have to be like the other boys," and "Kids in my school don't like boys who act like girls." Higher scores on this measure indicate greater perceived gender pressure.

Peer Victimization Items

Peer victimization was measured using three items: "Others in class do mean things to me," "Others in class try to hurt me," and "Others in class call me bad names." These items assess general, physical, and verbal victimization, respectively. As with previous measures, participants used a 5-point scale to rate how true each statement was for them, with higher scores indicating more frequent experiences of victimization in the classroom.

Internal consistency, as measured by Cronbach's alpha, for the variables of interest was found to be within the acceptable range across time. A detailed list of specific items and their associated internal consistency measures can be found in Table 6.

Results

Data Integrity

The data underwent screening according to guidelines outlined by Kline (2009). This involved standardizing variables and identifying potential outliers, with none detected within the dataset. Additionally, data were assessed for normality, revealing skewness and kurtosis values within acceptable ranges, indicating a normal distribution. To address missing data, a multiple imputation approach was employed, which involved estimating values based on the observed distribution and averaging them to represent single data points for analysis. Finally, given the divergent distribution of children across gender identity clusters over time, leading to varying sample sizes for each cluster (especially notable at time 2), we employed bootstrapping procedures for all statistical analyses. Bootstrapping is a recommended approach when addressing unequal sample sizes across groups, ensuring robust analyses despite these variations (Dwivedi, Mallawaarachchi, & Alvarado, 2017).

Mean Differences in Variables of Interest Across Gender Identity Clusters

We conducted statistical analyses aligned with our first research objective, which aimed to examine variations in children's self-reported gender pressure, anxiety, and peer victimization across gender identity clusters at two distinct time points. Given the observed instability of gender identity clusters (i.e., Both-gender similarity, Both-GS; Own-gender similarity, Own-GS; Other-gender similarity, Other-GS; and Neither-gender similarity, Neither-GS) over the school year, as highlighted in previous research (Kuzyk et al., under review), analyses were conducted separately for each time point. Specifically, we employed a multivariate analysis of variance (MANOVA) using SPSS software. Gender cluster was entered as a fixed factor, while anxiety, gender pressure, and victimization served as independent variables in the analysis.

Time 1

A statistically significant effect of victimization was observed, F (3, 347) = 4.21, p = .006, η2 = .035. Pairwise comparisons revealed that the Both-GS group (M = 2.54, SD = 1.4) was statistically different from all three of the remaining gender clusters: Own-GS (M = 2.13, SD = 1.22, p = .015) Other-GS (M = 2.04, SD = .97, p = .006), Neither-GS (M = 1.96, SD = .78, p <.001). Overall, children in the Both-GS group reported the highest level of peer victimization, while those in the Neither-GS group reported the least. Mean differences across peer victimization, anxiety, and gender pressure scores across gender identity clusters are depicted in Figure 5.

Time 2

A total of two statistically significant effects (i.e., gender pressure and victimization), and one statistical trend (i.e., anxiety) emerged from the analysis of variance. The F-statistics and corresponding p values and effect size measures for each effect are as follows: i) gender

pressure: $F(3, 347) = 3.40$, $p = .02$, $\eta 2 = .03$; ii) victimization: $F(3, 347) = 5.24$, $p = .002$; $\eta 2 = .04$; iii) anxiety: $F(3, 347) = 2.37$, $p = .07$, $\eta 2 = .02$).

Pairwise comparisons for the effect of gender pressure revealed significant differences, with the Both-GS group ($M = 3.34$, $SD = .95$) statistically differing from the Own-GS ($M = 3.03$, $SD = 1.10$, $p = .03$) and Neither-GS ($M = 2.90$, $SD = .78$, $p = .004$) groups. Similarly, in the case of victimization, the Both-GS group ($M = 2.70$, $SD = 1.40$) showed statistically significant differences compared to the Own-GS ($M = 2.04$, $SD = 1.12$, $p < .001$ and Neither-GS ($M = 2.13$, $SD = .84$, $p = .003$) groups. Furthermore, pairwise comparisons for the effect of anxiety demonstrated that the Both-GS group ($M = 2.53$, $SD = 1.11$) significantly differed from the Own-GS ($M = 2.24$, $SD = 1.01$, $p = .05$) group. Mean differences across peer victimization, anxiety, and gender pressure scores across gender identity clusters are depicted in Figure 6.

Zero-Order Correlations Among Variables of Interest

Zero-order correlations were conducted among all variables of interest to examine the associations between predictor and outcome variables, as well as to assess for multicollinearity. This step was aligned with the study's second objective, which focused on exploring the predictive role of gender pressure, anxiety, and their interaction concerning peer victimization across various gender identity clusters using multiple regression analyses. Additionally, the study aimed to investigate whether the interaction effect between anxiety and gender pressure varied based on biological sex, socioeconomic status (SES), and geographic location (Place). To achieve this, three-way interaction variables were created between gender pressure, anxiety, and one of three demographic variables (biological sex, SES, or geographic location). As such, biological sex, SES and Place variables, as well as their interactions with anxiety and gender pressure were included in the correlation analyses. Notably, zero-order correlations analyses

were specifically conducted at Time 2, as no statistically significant mean differences were observed on gender pressure, and anxiety items at Time 1. A summary of correlation coefficients and associated *p* values is presented in Table 7.

High multicollinearity was observed for three predictor variables: i) anxiety with anxiety-gender pressure interaction, ii) geographic location with anxiety-gender pressure-place interaction, iii) and SES with anxiety-gender pressure-SES interaction. Specifically, significant positive correlations were found between anxiety and the anxiety-gender pressure interaction (r (349) = .84, $p < .001$), geographic location and the anxiety-gender pressure-geographic location interaction (r (349) = .85, $p < .001$), and SES and the anxiety-gender pressure-SES interaction (r (349) = .84, $p < .001$).

Nearly all but one of the demographic variables were associated with the outcome variables. Specifically, biological sex was not correlated with victimization, (r (349) = -.04. p = .41).

Regression models predicting self-reported peer victimization

A series of hierarchical regression models were conducted to derive estimates of the predictive power of anxiety, gender pressure, and demographic variables on peer victimization across gender identity groups. Given that biological sex was not related to the outcome (victimization), it was excluded in regression analyses. Additionally, to reduce multicollinearity and better account for unique variance by each predictor variable, gender pressure, anxiety-gender pressure interaction, and anxiety-gender pressure-demographic variable interaction (i.e., SES or geographic location) were included in the multiple regression analyses.

A total of eight hierarchical regression models were conducted: the first set examined how anxiety-gender pressure varied as a function of SES in predicting peer victimization across

four gender identity clusters, while the second set focused on examining how anxiety-gender pressure varied as a function of geographic location in predicting peer victimization. Values displayed in Table 8 correspond to the unstandardized regression coefficients, beta weights, R^2 values, and *F* statistic values for the SES-related analyses. Table 9 contains similar statistical values for the analyses involving geographic location.

Anxiety-Gender Pressure as Function of SES

Model 1: Own-Gender Similarity. In step 1, gender pressure predicted scores peer victimization scores, and accounted for approximately 9% of the variance of the outcome, F (1, 167) = 15.70, $p < .001$, $R^2 = .09$. When the anxiety-gender pressure interaction was entered into the model both predictors significantly predicted scores on peer victimization items, ΔF (2, 166) = 41.37, $p < .001$, $R^2 = .27$. The change in R^2 indicated that an additional 18% of variance was explained by the anxiety-gender pressure interaction. Additionally, when the anxiety-gender pressure-SES interaction was entered into the model at Step 3, the predictive power decreased, ΔF (3, 165) = 2.83, $p = .09$, $\Delta R^2 = .01$.

Model 2: Both-gender Similarity. At all three steps, predictor variables significantly predict peer victimization scores. At Step 1, gender pressure significantly predicted victimization scores (F (1, 68) = 7.96, $p < .05$, $R^2 = .11$). With the addition of the anxiety-gender pressure interaction in Step 2, both predictors continued to significantly predict scores (ΔF (2, 66) = 23.95, $p < .001$, $R^2 = .34$). The increase in R^2 indicated an additional 24% of variance explained by the interaction term ($\Delta R^2 = .24$). However, the model's predictive ability decreased at Step 3, as evidenced by the nonsignificant change in the F statistic and associated values, F (3, 65) = .66, $p = .42$, $\Delta R^2 = .01$), suggesting that the inclusion of the anxiety-gender pressure-SES interaction did not enhance the model's predictive power.

Model 3: Neither-gender Similarity. Similar to Model 2, across all three steps, three predictor variables significantly predicted peer victimization scores. However, the change in the *F* statistic at Step 3 suggests that the gender pressure-anxiety-SES interaction term did not significantly enhance the predictive power of the model (ΔF (3, 87) = 1.80, p = .18, ΔR^2 = .01). At Step 1, gender pressure significantly predicted victimization scores (F (1, 89) = 10.74, p < .001, R^2 = .11). Upon adding the anxiety-gender pressure interaction in Step 2, both predictors continued to significantly predict scores (ΔF (2, 88) = 31.01, p < .001, R^2 = .35), with an increase in R^2 indicating an additional 23% of variance explained by the interaction term.

Model 4: Other-gender Similarity. In Step 1, gender pressure did not predict peer victimization scores in this gender identity group (F (1, 20) = .10, p = .75, R^2 = .01). However, at Step 2, when the anxiety-gender pressure interaction was entered into the model, it significantly predicted scores (ΔF (2, 19) = 10.22, p < .005, R^2 = .35). At Step 3, the inclusion of anxiety-gender pressure-SES did not enhance the model's predictive power, as indicated by the change in *F* statistic and associated values (ΔF (3, 18) = .75, p = .40, ΔR^2 = .03).

Anxiety-Gender Pressure as function of Place

Model 1: Own-Gender Similarity. In the first step, gender pressure significantly predicted peer victimization scores, accounting for 8.6% of the variance, F (1, 167) = 15.70, p < .001, R^2 = .086. The second step introduced the anxiety-gender pressure interaction, which significantly improved the model, ΔF (2, 166) = 41.37, p < .001, ΔR^2 = .18, explaining an additional 18% of the variance in peer victimization. The total variance explained by the model at this step was 27% (R^2= .27). In the third step, the anxiety-gender pressure-place interaction was added, but it did not significantly improve the model, ΔF (3, 165) = 0.50, p = .46, with no change in R^2 (.27).

Model 2: Both-gender Similarity. Step 1 of the model, which included the initial predictor, was statistically significant and explained 11% of the variance in the outcome variable, F (1, 67) = 7.96, $p < .05$, $R^2 = .11$. The second step introduced an additional predictor, which significantly improved the model, ΔF (2, 66) = 23.95, $p < .001$, $\Delta R^2 = .344$, explaining an additional 34.4% of the variance. The total variance explained by the model at this step was 45.4% ($R^2 = .454$). In the third step, a final predictor was added, but it did not significantly improve the model, ΔF (3, 65) = 0.19, $p = .67$, $R^2 = .002$, with only a 0.2% increase in explained variance. The final model accounted for 45.6% of the total variance in the outcome variable ($R^2 = .456$).

Model 3: Neither-gender Similarity. The first step yielded a significant model, F (1, 89) = 10.74, $p < .001$, $R^2 = .11$, explaining 11% of the variance in peer victimization scores. Step two introduced the gender pressure-anxiety interaction, resulting in a significant change to the model, ΔF (2, 88) = 31.01, $p < .001$, $\Delta R^2 = .23$. This addition explained an extra 23% of the variance, bringing the total explained variance to 34% ($R^2 = .34$). The third step, which added the gender pressure-anxiety-place interaction, significantly contributed to the model, ΔF (3, 87) = 4.08, $p = .04$, $\Delta R^2 = .03$, accounting for 3% more explained variance. The complete model accounted for 37% of the variance in peer victimization scores ($R^2 = .37$). The gender pressure-anxiety-place interaction was a significant predictor in the final model ($\beta = -.18$, t (87) = -2.02, $p = .04$). This indicates that the combined effect of gender pressure, anxiety, and place significantly influences peer victimization scores.

Model 4: Other-gender Similarity. The first step did not yield a significant model, F (1, 20) = 0.10, $p = .75$, $R^2 = .005$, explaining 0.5% of the outcome variance. Step 2 introduced the gender pressure-anxiety interaction, resulting in a significant improvement to the model, ΔF (2,

19) = 10.22, $p < .01$, $\Delta R^2 = .35$. This addition explained an extra 35% of the variance, bringing the total explained variance to 35% ($R^2 = .35$). The third step, which added a final predictor (gender pressure-anxiety-place), did not significantly enhance the model's predictive capacity, ΔF (3, 18) = 0.25, $p = .62$, $\Delta R^2 = .01$, contributing 1% more explained variance. The complete model accounted for 36% of the variance in the outcome variable ($R^2 = .36$).

Discussion

The present study was driven by two primary research questions. Firstly, we aimed to investigate variations in children's self-reported levels of victimization, gender pressure, and anxiety across different gender identity clusters over the course of a school year. Secondly, we sought to explore how the interaction between anxiety and gender pressure, moderated by socioeconomic status and geographic location, influenced peer victimization across these clusters. To address these questions, data were collected from a diverse sample of children attending schools in Barranquilla, Colombia and Montréal, Canada, at two distinct time points. As a result, three important research contributions to the field of gender identity development and peer victimization can be highlighted. First, our findings provide valuable insight into the differences in children's self-reported levels of victimization, gender pressure, and anxiety across gender identity clusters. This contributes to a more nuanced understanding of how these factors may vary among different gender identity groups. Second, our results highlight the unique influence of contextual factors on peer victimization, particularly for the neither-gender similarity group. Specifically, the results of the study indicate that the combined effect of gender pressure, anxiety, and geographic location significantly influenced peer victimization scores, with the strongest effects observed in Barranquilla. This suggests that the sociocultural context in Barranquilla may amplify the impact of these factors on peer victimization. Finally, the present

study offers new insights into the concept of androgyny and its relation to psychosocial functioning. This contributes to a more complex understanding of gender identity and its implications for social experiences in school-age children.

Theoretical and Empirical Underpinnings of Androgyny

The observed variations in children's self-reported levels of victimization, gender pressure, and anxiety across different gender identity clusters are contrary to our initial hypotheses. We had anticipated that children in the gender atypical group would experience more negative peer interactions (Ruble et al., 2006; Fabes et al., 2004), hypothesizing that gender atypical groups would report higher levels of victimization, gender pressure, and anxiety. However, the data revealed a more complex picture. Children in the Both-GS group consistently reported the highest levels of peer victimization at both time points and highest levels of anxiety and gender pressure at Time 2.

These results present an important contrast to the theoretical underpinnings of androgyny proposed by Bem (1974, 1975). Bem's research suggested that androgynous individuals possess greater behavioural adaptability, demonstrating the ability to perform both masculine and feminine responses in various situations. However, the findings align more closely with the ongoing debate surrounding androgyny and its links to positive adjustment (Martin, Cook, & Andrews, 2017). The literature on androgyny and mental health outcomes presents mixed findings, particularly when comparing adult and child samples. While some studies on older children and adolescents support the idea that androgyny is beneficial (Alpert-Gillis & Connell, 1989; Rose & Montemayor, 1994), others have not found consistent links between androgyny and positive mental health outcomes (Bassoff & Glass, 1982; Lubinski et al., 1983; Spence &

Hall, 1996). These findings contribute to the mixed evidence, highlighting the complexity of gender identity and its relation to psychosocial functioning in children.

Differences in how studies define and measure "androgyny" may account for the mixed results observed in the literature. For instance, Bukowski (2017) reported on androgynous peer liking, while Martin et al. (2017) focused on children's reports of their own gender similarity and dissimilarity. Furthermore, in Martin et al., 2017's study, mental health outcomes were based on both parent and peer reports, with measures of anxiety and exclusion solely based on parent reports. Specifically, the authors reported that parents reported higher levels of anxiety and exclusion for children who identified with the other gender (Martin et al., 2017), while in the current study, children in the Both-GS group self-reported the highest levels of anxiety and victimization. The discrepancy between children's self-reports and parent reports of victimization and anxiety underscores the importance of considering children's perspectives. Studies, such as those by Averdijk et al. (2022) and De Los Reyes et al. (2015), emphasize that children's self-reports often provide unique insights into their emotional experiences that parents might not fully capture. Similarly, De Los Reyes et al. (2015) highlighted the often low agreement between parent and child reports of anxiety symptoms, suggesting that children may have unique insights into their emotional experiences that parents might not fully capture. This aligns with the present set of findings, where children in the Both-GS group self-reported higher levels of anxiety and victimization, highlighting the limitations of relying solely on parent reports.

Sociocultural and Geographic Influences on Peer Victimization Across Gender Identity Clusters

A second objective was to examine how the interaction between anxiety, gender pressure, and geographic location influences peer victimization across different gender identity clusters.

The analysis revealed a statistically significant three-way interaction in the Neither-gender Similarity group, indicating that the relation between these factors and peer victimization is more pronounced in Barranquilla compared to Montréal.

Post-hoc analyses using zero-order correlations organized by geographic location provided further insights into the dynamics between anxiety, gender pressure, and peer victimization. Across both Barranquilla and Montréal, all correlations were positive, suggesting that higher levels of anxiety and gender pressure are associated with increased reports of peer victimization by youth. Notably, the correlation between anxiety and victimization was stronger in Barranquilla (r = .58) than in Montréal (r = .48), indicating that self-reported anxiety was more predictive of peer victimization in Barranquilla. Similarly, the interaction between anxiety and gender pressure showed a stronger correlation with victimization in Barranquilla (r = .55) compared to Montréal (r = .51). These findings suggest that the combined effects of anxiety and gender pressure are more influential in Barranquilla, possibly due sociocultural influences. For example, in Latin America, constructs such as "machismo" and "marianismo" emphasize traditional gender roles, potentially intensifying gender pressure and its impact on anxiety and victimization (Demir et al., 2020; Englander et al., 2012).

Interestingly, descriptive statistics revealed similar levels of anxiety across both geographic locations, with post-hoc analyses confirming that these differences were not statistically significant. However, children in Barranquilla reported statistically higher levels of gender pressure and victimization compared to those in Montréal. This highlights the possible heightened social pressures in Barranquilla, which may amplify the effects of anxiety and gender pressure on peer victimization.

The Role of Contextual and Individual Factors

The findings of this study can be best understood by examining the intersection and influence of both individual and contextual factors. Broadly, the research reveals that children in the Both-GS and Neither-gender Similarity groups report higher levels of victimization, anxiety, and gender pressure. These variations are influenced by the interaction of individual factors, such as self-reported levels of anxiety, and contextual factors, including gender pressure and geographic location, indicating a nuanced connection among these features. This dynamic interplay highlights the complexity of how individual anxiety levels interact with broader environmental influences. Anxiety, as a central variable, plays a significant role in shaping children's experiences and responses to peer victimization and gender pressure. Cultural norms and peer networks likely further influence these experiences, as children become entrenched within their peer groups, which significantly impact their gender identity development and psychosocial outcomes.

Research has traditionally focused on children who identify strongly with either the same or the opposite gender. However, the findings, informed by Martin et al.'s (2017) dual identity framework, expand this perspective by considering children who do not identify with either gender or who identify with both. The most compelling aspect of these findings is that the most pronounced effects occur in these groups, rather than among those who identify with same and other genders. This raises important questions about where children who identify with both or neither gender lie on critical dimensions that influence their experiences of anxiety and gender pressure. The complexity of gender identity extends beyond the typicality-atypicality spectrum. Egan and Perry’s (2001) multidimensional model emphasizes considering all dimensions such as intergroup bias and gender centrality.

Intergroup bias, the belief in the superiority of one's gender group, might create internal conflict and anxiety, especially for children who identify strongly with both or neither gender. This internal struggle could be exacerbated in environments with high gender pressure, consistent with the positive correlations observed between intergroup bias and gender norms reported by Egan and Perry (2001). Their research indicates that intergroup bias and felt pressure to conform to gender stereotypes are negatively associated with psychosocial adjustment, highlighting the importance of these dimensions in understanding children's well-being.

Gender centrality, or the importance a child places on their gender as part of their identity, can also play a significant role. Children who place high importance on their gender identity might experience more pressure to conform to societal norms, exacerbating their anxiety and susceptibility to victimization. Egan and Perry's model (2001) suggests that gender centrality is a key factor in children's psychological adjustment, as it influences their self-esteem and peer acceptance.

Taken together, the extent to which children identifying with both-gender and neither-gender identities report anxiety, gender pressure, and victimization may be influenced by their positioning on Egan and Perry’s (2001) dimensions, such as intergroup bias and gender centrality. These dimensions may heighten anxiety and victimization, especially in environments with strong gender pressure. Peer networks, as crucial agents of socialization, may significantly shape these experiences by exerting pressure to conform to gender norms, which can lead to challenges for children who do not fit traditional roles, resulting in victimization and exclusion (Kornienko et al., 2017; Carver et al., 2003). The findings may suggest that both-gender and neither-gender identity groups experience increased victimization and heightened anxiety due to their alignment with these dimensions. Notably, these experiences must be viewed within the

broader context of peer networks and cultural norms that dictate gender socialization—defining what is accepted in terms of gender expression—and the pressure children feel to conform. Strong pressures to adhere to group norms may restrict children's gender expression, creating conflict for those who feel atypical within their gender variant identity.

To the authors' knowledge, the extent to which children across these gender clusters rate on Egan and Perry's dimensions has not been explored. Investigating this could provide insights into the interplay between gender identity, peer influence, and cultural norms. Network analysis could be particularly valuable in this context, as it allows researchers to examine how peer networks, as crucial agents of socialization, shape experiences by exerting pressure to conform to gender norms. By analyzing the structure and dynamics of these networks, researchers can identify how peer influence and friend selection contribute to shaping gender identity and behaviours. Understanding the role of network centrality and social cohesion can reveal how individuals are pressured to conform to traditional gender roles, potentially leading to anxiety and victimization. This approach can guide future research to better understand the factors influencing gender identity development and psychosocial adjustment, offering insights that can inform interventions aimed at supporting gender-diverse individuals in navigating peer pressures and social expectations.

Concluding Remarks

Several strengths and limitations should be acknowledged, along with implications and directions for future research. A notable strength is the focus on children's self-reports, which provide critical insights into their experiences of anxiety, gender pressure, and victimization. This approach is particularly valuable in understanding the nuanced dynamics of gender identity

during early adolescence. The diverse geographic sample, spanning Barranquilla and Montréal, further enriches the study by highlighting how sociocultural contexts influence these dynamics.

However, the study also presents with limitations. The complexity of gender identity during this period, marked by evolving peer relations, presents challenges in capturing these nuances fully. The statistical plan, while robust, may not have fully accounted for the intricate interplay of these factors. Future research could benefit from incorporating network analysis to examine how peer networks shape gender identity and behaviours, particularly in contexts with strong gender norms. Additionally, exploring where the four gender clusters fall on Egan and Perry's (2001) dimensions, such as intergroup bias and gender centrality, could provide further insights into the factors influencing anxiety and victimization.

These findings have significant implications for identifying children who may be at risk for mental health challenges. Traditionally, attention has focused on children with atypical gender representations. However, this research suggests that those who identify with both or neither gender might be more vulnerable to psychosocial challenges, despite appearing well-adjusted socially. Recognizing these potential vulnerabilities can inform interventions aimed at supporting gender-diverse individuals in navigating peer pressures and social expectations. By developing strategies that consider the complex interplay of individual and contextual factors, educators and mental health professionals can foster more inclusive environments that enhance psychosocial adjustment and well-being for all children.

Table 5. Frequency Statistics for Gender Identity Clusters Across Time and Sociodemographic Variables

	Own-gender similarity (*n;* %)	Both-gender similarity (*n;* %)	Neither-gender similarity (*n;* %)	Other-gender similarity (*n;* %)
Time 1				
Sex				
Male	50; 49%	88; 52.1%	26; 37.7%	5; 45.5%
Female	52; 51%	81; 47.9%	43; 62.3%	6; 54.5%
SES				
High	42; 41.2%	90; 53.3%	18; 26.1%	3; 27.3%
Low	60; 58.8%	79; 46.7%	51; 73.9%	8; 72.7%
Geographic location				
Barranquilla	34; 33.3%	94; 55.6%	39; 56.5%	7; 63.6%
Montréal	68; 66.7%	75; 44.4%	30; 43.5%	4; 36.5%
Time 2				
Sex				
Male	88; 52.1%	26; 37.7%	46; 50.5%	9; 40.9%
Female	81; 47.9%	43; 62.3%	45; 49.5%	13; 59.1%
SES				
High	90; 53.2%	18; 26.1%	36; 39.6%	9; 40.9%
Low	79; 46.7%	51; 73.9%	55; 60.4%	13; 59.1%
Geographic location				
Barranquilla	94; 55.6%	39; 56.5%	32; 35.2%	9; 40.9%
Montréal	75; 44.4%	30; 43.5%	59; 64.8%	13: 59.1%

Table 6. Scale Items and Internal Consistency (Cronbach's Alpha) Across Time

Items	Cronbach's α
Anxiety (T1 and T2)	.92
I can feel nervous when I am with other kids in my class	
I worry about what other people might think of me	
Sometimes I am afraid that some people in my class might make fun of me	
Peer Victimization (T1 and T2)	.89
Others in class do mean things to me	
Others in class try to hurt me	
Others in class call me bad names	
Gender Pressure (T1 and T2)	.72
It bothers the kids in my class when a boy/girl acts like a boy/girl	
It would bother the kids in my class if I acted like a boy/girl	
Boys/girls in my class feel that they have to be like the other boys/girls	

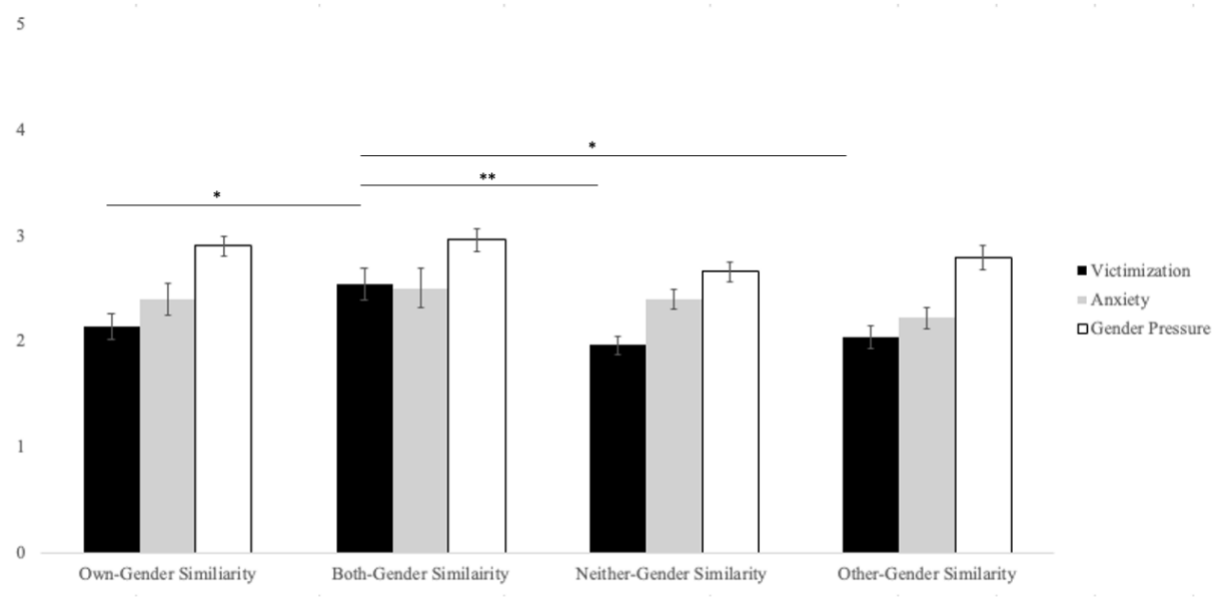

Figure 5. Mean differences across peer victimization, anxiety, and gender pressure scores across gender identity clusters at Time 1. Error bars reflect standard error of the mean. $^{*}p < .05$, $^{**}p < .001$.

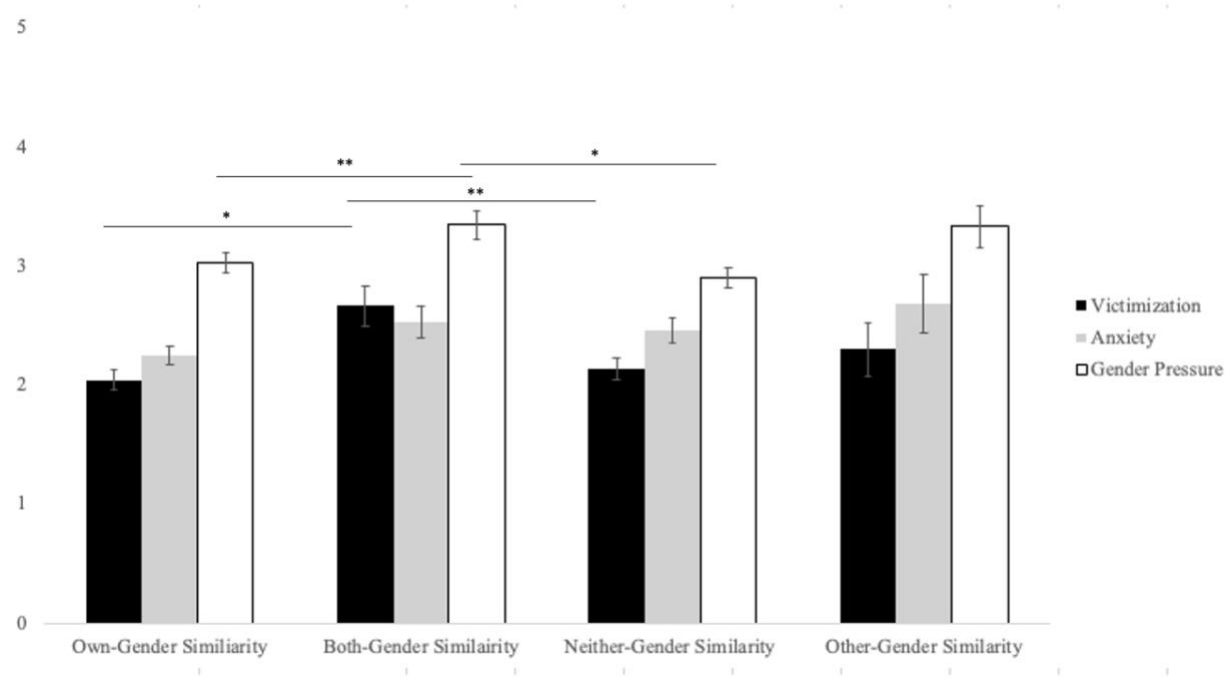

Figure 6. Mean differences across peer victimization, anxiety, and gender pressure scores across gender identity clusters at Time 2. Error bars reflect standard error of the mean. $^{*}p < .05$, $^{**}p < .001$.

Table 7. Zero-order Correlations Among Variables of Interest

Variables	1	2	3	4	5	6	7	8	9	10
1. Sex	--	-.01 $p = .87$	.01 $p = .89$	.06 $p = .27$	-.05 $p = .33$	-.04 $p = .41$	-.001 $p = .99$	.85** $p < .001$	.05 $p = .39$	-.03 $p = .60$
2. Place		--	.02 $p = .69$	-.07 $p = .20$	-.23** $p < .001$	-.16* $p < .05$	-.18** $p < .001$	.04 $p = .43$	.85** $p < .001$	.05 $p = .38$
3. SES			--	-.04 $p = .44$	-.07 $p = .22$	-.16* $p < .05$	-.06 $p = .28$	-.03 $p = .60$	.03 $p = .52$	.84** $p < .001$
4. Anxiety (Anx)				--	.27** $p < .001$	.54** $p < .001$	.84** $p < .001$	.04 $p = .42$	-.14* $p < .05$	-.11* $p < .05$
5. Gender Pressure (GP)					--	.31** $p < .001$	.69** $p < .001$	-.04 $p = .48$	-.29** $p < .001$	-.09 $p = .09$
6. Victimization						--	.55** $p < .001$	-.07 $p = .22$	-.22** $p < .001$	-.210** $p < .001$
7. Anx-GP							--	-.003 $p = .96$	-.30** $p < .001$	-.13* $p < .05$
8. Anx-GP-Sex								--	.14 $p = .01$	-.06 $p = .26$
9. Anx-GP-Place									--	.09 $p = .07$
10. Anx-GP-SES										--

Table 8. Hierarchical Multiple Regression Models Predicting Peer Victimization from Gender Pressure, Anxiety, SES Across Gender Identity Group

		Step 1		Step 2		Step 3	
	Variable	B	β	B	β	B	β
Own-Gender Similarity	Constant	1.14**		1.50**		1.50**	
	Gender Pressure	.30**	.08	-.14	-.14	-.14	-.14
	Gender Pressure-Anxiety			.14**	.61	.14**	.61
	Gender Pressure-Anxiety-SES					-.01t	-.11
	R^2	.09		.27		.28	
	F	15.70**		30.43**		21.45**	
	ΔR^2	.09		.18		.01	
	ΔF	15.70**		41.37**		2.83t	
Both-gender Similarity	Constant	1.10t		1.84**		1.84**	
	Gender Pressure	.47*	.33	-.22	-.15	-.21	-.14
	Gender Pressure-Anxiety			.18**	.68**	.17**	.64
	Gender Pressure-Anxiety-SES					-.01	-.10
	R^2	.11		.34		.35	
	F	7.95*		17.32**		11.70**	
	ΔR^2	.11		.24		.01	
	ΔF	7.95*		23.95**		.66	
Neither-gender Similarity	Constant	1.12**		1.53**		1.54**	
	Gender Pressure	.35**	.33	-.13	-.12	-.15	-.14
	Gender Pressure-Anxiety			.13**	.66**	.14**	.68**
	Gender Pressure-Anxiety-SES					-.01	-.122
	R^2	.11		.34		.35	
	F	10.73**		22.68**		15.86**	
	ΔR^2	.11		.23		.01	
	ΔF	10.74**		31.01**		1.80	
Other-gender Similarity	Constant	1.99t		1.02		1.02	
	Gender Pressure	.09	.07	-.09	-.07	-.10	-.10
	Gender Pressure-Anxiety			.18*	.61	.19*	.62
	Gender Pressure-Anxiety-SES					-.01	-.10
	R^2	.01		.35		.36	
	F	.10		4.20*		2.90*	
	ΔR^2	.01		.35		.01	
	ΔF	.10		10.22*		.25	

Note. * $p < .05$, ** $p < .001$, t < .10 representing statistical trend.

Table 9. Hierarchical Multiple Regression Models Predicting Peer Victimization from Gender Pressure, Anxiety, Place Across Gender Identity Group

		Step 1		Step 2		Step 3	
	Variable	B	β	B	β	B	β
Own-Gender Similarity	Constant	1.14**		1.50**		1.52**	
	Gender Pressure	.30**	.29	-.14	.10	-.15	-.15
	Gender Pressure-Anxiety			.14**	.02	.14**	.60
	Gender Pressure-Anxiety-Place					-.01	-.50
	R^2	.10		.27		.27	
	F	15.70**		30.43**		20.39**	
	ΔR^2	.09		.18		.01	
	ΔF	15.70**		41.34**		.49	
Both-gender Similarity	Constant	1.10t		1.84**		1.90**	
	Gender Pressure	.47*	.33	-.22	-.15	-.22	-.15
	Gender Pressure-Anxiety			.18**	.70	.17**	.66
	Gender Pressure-Anxiety-Place					-.01	-.05
	R^2	.11		.34		.35	
	F	7.95*		17.32**		11.46**	
	ΔR^2	.11		.24		.002	
	ΔF	7.95*		23.95**		.19	
Neither-gender Similarity	Constant	1.12**		1.53		1.70**	
	Gender Pressure	.35**	.33	-.13	-.12	-.19	-.17
	Gender Pressure-Anxiety			.13**	.67	.14**	.69
	Gender Pressure-Anxiety-Place					-.02*	-.18
	R^2	.11		.34		.37	
	F	10.73**		22.68**		17.01*	
	ΔR^2	.11		.23		.03	
	ΔF	10.73**		31.03**		4.08*	
Other-gender Similarity	Constant	1.98t		1.02		1.02	
	Gender Pressure	.09	.07	-.09	-.07	-.10	-.10
	Gender Pressure-Anxiety			.18**	.61	.19**	.62
	Gender Pressure-Anxiety-Place					-.01	-.10
	R^2	.01		.35		.36	
	F	.10		5.20*		3.40*	
	ΔR^2	.01		.35		.01	
	ΔF	.10		10.22**		.25	

Note. * $p < .05$, ** $p < .001$, t < .10 representing statistical trend.

Study 3: Gender and Contextual Variations in Self-Perceived Cognitive Competence

Olivia Kuzyk, Alice Gendron, Luz Stella-Lopez, William M. Bukowski
Concordia University
Universidad del Magdelena

Abstract

School performance and cognitive competence can be conceptualized as social and relational constructs. Thus, we expect their association to vary as a function of other socially-embedded variables which have proven meaningful in the academic domain. The present study takes a critical theory approach to assess gender-related and contextual variability in the association between peer-assessed school performance and self-perceived cognitive competence. The sample consisted of 719 preadolescents (*M* age = 9.5 years, *range* = 9 to 12.5 years) living in lower- and upper-middle-class neighborhoods in Montreal, Canada and Barranquilla, Columbia. Multigroup comparisons revealed that (a) peer-assessed school competence was more strongly associated with self-perceived cognitive competence for upper-middle-class than lower-middle-class participants from Barranquilla, whereas the opposite pattern was observed with Montreal participants, and (b) that the association between communal orientation and self-perceived cognitive competence was stronger for girls than for boys across the sample, especially in the upper-middle-class school in Montreal. These findings highlight the nuanced degree of gender differences in preadolescents' perceived academic competence and emphasize the role of SES in shaping self-perceptions.

Gender and Contextual Variations in Self-Perceived Cognitive Competence

The self is a dynamic construct that is shaped by experiences across the lifespan – especially in middle-childhood and adolescence (DuBois et al., 2000; Sebastian et al., 2008). Multiple proximal and distal factors influence the development of the self, including positive and negative aspects of individual experience (e.g., success and failure in achievement-related and social tasks), as well as other features of the school and peer environments (Bukowski & Raufelder, 2018). The present cross-cultural study emphasizes the intersection between gender-related features at the level of the person and the contexts where the children are situated. The study examines the associations between variations in self-perceived cognitive competence, school performance, and aspects of gender in a sample of preadolescent girls and boys from upper- and lower-middle-class families in Montreal, Canada, and Barranquilla, Colombia. The goal of the study was to examine (a) how preadolescents' self-perceived cognitive competence is associated with school performance and with different aspects of gender and (b) how these associations vary as a function of cross-cultural context (i.e., place) and socioeconomic status (SES).

Self-perceived competence is defined as an individual's judgment of their own abilities, functioning, and well-being (Harter, 1996). Research on the self is typically guided by three premises (Harter, 2012); (1) that self-perceptions are only moderately associated with actual experiences, (2) that self-perceived competence can be affected by other person-related variables that can either increase or decrease a person's negative or positive self-views, and (3) that person-level and group-level variables can moderate the association between measures of functioning and self-perceptions. We used a broad multilevel perspective in our application of these premises to the study of the effects of gender and self-perceptions on cognitive

competence. Our approach is characterized by two central ideas. The first is that we recognize that gender is a complex and multifaceted construct whose features need to be studied together to obtain a fuller view of how the defining aspects of gender work in concert to affect outcomes. Second, we maintain that gender is a social construct whose defining characteristics and given meanings are likely to vary across social and cultural contexts (World Health Organization, 2017). Incorporating these points related to the self and gender into our framework present some theoretical challenges, which are addressed in the following sections.

Gender Theory

Our approach to these issues is inspired by critical theory (Bohman, 2021), and more specifically, by three fundamental claims from critical gender theory (Jule, 2014). The first claim is that simple comparisons between females and males provide only a very narrow assessment of the vast array of features and effects that constitute gender. In this study, we go beyond a simple binary comparison by including measures fashioned after the femininity and masculinity measures of the Bem Sex Role Inventory (BSRI) in order to capture gender-role traits that covary with cisgender measures of masculinity and femininity (Bem & Lewis, 1975). A second claim of critical gender theory is that to understand the dynamics of gender, one needs to assess how the facets of gender interface with actual experiences and social institutions.

In this study, we assessed how gender-related traits are associated with school performance. Instead of seeing school performance solely as a form of individual achievement, we also conceptualize it as a relational or participatory experience which may benefit from one's capacity to connect with the shared goals of the institutional environment. We see the gendered dimension of communal orientation as a trait that promotes effective functioning in academic tasks. We examined these factors by assessing how aspects of gender were related directly to

self-perceived cognitive competence and how they moderated the association between school performance and self-perceived cognitive competence. The third claim is that gender is a social construct whose features and meanings vary across contexts. We assessed contextual variance by examining the effects of two broad contextual factors: the socioeconomic status of the children's school/neighborhood and place (i.e., whether participants were from Montreal, Canada, or Barranquilla, Colombia). We chose to study preadolescents from two cultural contexts that were likely to differ in their normative social relationship to gender and its multiple facets, as well as display differences in the gendered experiences they present to children in their respective settings when comparing lower- and upper-middle-class school environments. This decision is based on prior findings with classroom samples that support variance in gender identity as a function of SES (Bukowski et al., 2019, 2021). Our assessment of contextual factors focused on between-group differences in the degree to which associations between measures of gender (i.e., cisgender and gender roles) were associated with measures of self-perceived cognitive competence, and assessed whether gender moderated the association between school performance and self-perceived cognitive competence.

Self-Perceived Cognitive Competence in an Academic Setting

Self-perceptions of academic competence are an understudied domain of research in relation to the self-concept. They are important because they affect subsequent goals in school tasks (Bong & Skaalvik, 2003; O'Mara et al., 2006). Children who endorse positive views of their cognitive competence have been shown to make more efforts to perform academically (Guay et al., 2003). Research also supports that academic attainment influences children's self-concept during a developmental period where academic self-perceptions are sensitive to experiences of success and failure (Sk. As such, a bi-directional model (Marsh & Martin, 2011;

Brunner et al., 2013) offers a more complete understanding of the reciprocal contributions between academic self-perceptions and performance.

There is a historical trend of gender differences in school performance throughout elementary school and into adolescence (e.g., Brophy, 1985; Alexander et al., 1997; Dwyer & Johnson, 1997; Neuburger et al., 2012; Kingdon et al., 2017). Current evidence shows that the difference between girls and boys is relatively small (Voyer & Voyer, 2014) except perhaps in academic subjects that rely heavily on language skills (Reilly et al., 2019). There is some long-standing evidence that girls perceive themselves more positively in stereotypically feminine areas (i.e., reading and writing), but judge themselves more harshly on stereotypically masculine subjects (i.e., math and science) (Ruble et al., 1993). Moreover, girls evaluate themselves more negatively on measures of general self-worth (Kling et al., 1999) and report higher levels of school-related worry compared to boys (Silverman et al., 1995).

Explanations for this discrepancy may, in part, centre on differences on how boys and girls develop a sense of cognitive competence. Generally, researchers highlight that boys show higher scores on measures of self-worth compared to girls (e.g., Chubb et al., 1997; Quatman & Watson, 2001; Birndorf et al., 2005). This may be reflective of how boys and girls approach academics and manage evaluative feedback. That is, girls may regard these situations as opportunities to learn about their abilities and thus, may be more likely to internalize feedback (Roberts, 1991). These tendencies may motivate girls to do well, and also lead them correspondingly to experience more distress when they encounter failure or difficult feedback. Boys, conversely, are more competitive and may approach academics with more self-confidence and deny the evaluative feedback that is provided (Roberts, 1991). A self-confident approach may buffer the effects of failure or poor performance because it may lead boys to view feedback

as less informative. This model signals potential variation in how children perceive their cognitive competence and perform in school based on the extent to which they ascribe to masculine and feminine traits.

Therefore, one can speculate that the processes of academic achievement can be conceptualized in relation to forms of functioning that are differentially associated with feminine and masculine gender roles. The items assigned to the feminine and masculine scale of the Bem Sex Role Inventory can be conceived of as fitting the well-established dimensions of communion and agency that are known to be gendered aspects of functioning (Abele & Wojciszke, 2007; Abele et al., 2016). Whereas the personal features of instrumentality and assertiveness associated with the masculine gender role (Bem, 1974) support a view of academic competence as a form of individual achievement that results from personal action, the personal feature of communion associated with the feminine gender role may support a view of competent school functioning as a collective activity that requires a commitment to group processes, which derive from group-sanctioned forms of knowledge. Hence, one could expect communion to promote self-perceived academic competence to the degree that functioning in school rests on participation in communal activities. According to this perspective, adhering to gender roles and perceiving oneself as cognitively competent may be overlapping forms of self-perception. As a result, boys who see themselves as being assertive and instrumentally competent may also see themselves as academically competent, as this form of competence is an expression of their personal assertiveness and instrumental skills. Similarly, girls who see themselves as communal may also see themselves as academically competent as this form of competence is an expression of their capacity to function in a domain that requires communal skills. This perspective is supported by evidence that adolescents perceive schools to be more feminine than masculine (Heyder &

Kessels, 2013). Based on this reasoning, one can hypothesize that (a) gender roles may be univariate correlates of measures of self-perceived cognitive competence and (b) they may function as moderators that strengthen the association between achievement and self-perceived cognitive competence. Each of these hypotheses will be examined in our analyses.

Self in Context

Socioeconomic status and culture are likely to affect variations in the self-concept during preadolescence. Children are situated within rich networks of influence, and thus it is unsurprising that these contexts impact their self-worth and academic achievement. Children belonging to high-SES families report higher levels of self-worth compared to those from low-SES backgrounds (Rhodes et al., 2004). However, this relationship is dependent on the importance placed on academic achievement. Campbell et al. (2002) have reported that this pattern has been observed as a result of a stronger emphasis placed on academic achievement in high-SES families.

Similarly, Santo et al. 2013 found that cognitive competence was more strongly related to self-worth in a sample of early adolescents from a low-SES background, whereas social competence was more closely linked to self-worth among children in high-SES groups. The authors posited that these patterns reflect differences in culturally-determined indicators of self-worth. For low-SES peer groups, pursuing an education may be a strong indicator of success, whereas achieving or maintaining social status may be more important for higher-SES families. Divergent patterns were also observed for adolescents from individualistic cultures relative to collectivistic cultures. More specifically, the association between perceived cognitive competence and self-worth was weaker for those from a collectivistic society compared to those from an individualistic one. Cognitive competence may be more closely aligned with

individualistic values and thus regarded as less important to collectivistic groups (Santo et al., 2013). There is no doubt that differences in how early adolescents perceive their cognitive competence and general worth are complex and salient across cultural groups.

The Current Study

Broadly, the focus of the present study was to examine contextual variations in how young adolescents' self-perceived cognitive competence is associated with their academic achievement. Here, gender is the primary contextual variable of interest, in that the current research builds on historical trends of gender differences in scholastic performance and provides objective indices of how they relate to cognitive competence. We conceptualize gender as a multidimensional construct. The current research examined the extent to which self-assessed cognitive competence and peer-assessed academic performance varies as a function of both masculine and feminine features of gender. It was hypothesized that children who identify more strongly with feminine features will demonstrate a stronger association between perceived cognitive competence and academic achievement.

Moreover, in light of research emphasizing the importance and complexity of the cultural context, we aimed to examine how this relationship changes across interactions of SES and cultural groups. We proposed that for children who identify with feminine traits, the relationship between their self-perceptions of cognitive competence and academic achievement will be strongest in the low-SES individualistic group. Second, we hypothesize a significant association between cognitive competence and academic achievement for children who reported more feminine traits in the low-SES collectivistic group.

Method

Participants

The sample consisted of 719 (*M* age = 10.70 years, *SD* = 1.20) fourth-, fifth- and sixth-grade girls (*N* = 380) and boys (*N* = 339) in mixed-sex schools located in lower-middle- and upper-middle-class neighborhoods in Montreal, Canada (*N* = 302) and Barranquilla, Colombia (*N* = 417). The proportion of boys and girls, and of upper- and lower-middle-class participants, was roughly the same in each country. Socioeconomic status was operationally defined with different criteria for the two places. In Colombia, this designation was based on an index of neighborhood SES known as *estrato* that is assigned by the Colombian government based on the quality of housing and services in the neighborhood (Rueda-García, 2003). Scores range from 1 to 6, with higher scores indicating greater affluence. The mean estrato score for the children from lower-middle-SES schools was 2.52, (*SD* = 0.70) indicating that the participants at the low-SES schools were indeed within the lower socioeconomic strata. Although individual estrato ratings were not obtained from the high-SES school sampled in Barranquilla, school officials indicated that children who attended this school typically fell into the highest estrato category (6). The data were collected in 2002.

SES for the Montreal children was based on the average family income of children in their school. Parents completed a questionnaire in which they selected the income level (from 10 choices ranging from below $15,000 to over $95,000) that was closest to that of each adult member of the household in the last year. A total income score was calculated by adding the income of each family member. There were large between-school differences: one school had a mean family income of $36,027 CND, a second school had a mean of $68,400 and the third school had a mean of $79,194. The first school was designated as lower-middle class and the

second two schools as upper-middle class. Based on information from the 2001 Canadian census (the census conducted closest to the time of the data collection), the mean family income of participants from the first school was considerably lower than the provincial average of $59,296, whereas the mean family income of participants in the latter two schools was above the provincial average (Statistics Canada, 2002). In the Barranquilla part of the sample, there were 149 participants from the two schools in lower- middle-class neighborhoods and 268 participants from the one school whose students came from upper-middle-class neighborhoods. In the Montréal part of the sample, there were 149 participants from the one school in a lower- middle-class neighborhoods and 268 participants from the two schools in upper-middle-class neighborhoods.

Procedure

A multi-stage recruitment process was used in each city. In Montreal, permission was first obtained from the relevant school board, and then from school principals. Active consent was required from parents of potential participants. In Barranquilla, the parents of the potential participants were informed by the school principal of the purposes and procedures of the study. They were also informed that participation in the study was voluntary. Parents could ask for their child not to be included in the study. In this region of Colombia, school principals often act *in loco parentis.* Their rights as participants were explained to them prior to the beginning of the data collection. Each participating child provided assent to be in the study. Using these recruitment procedures, a participation rate of over 85% was obtained in Montreal and of over 90% in Barranquilla.

The children completed a questionnaire at their desks in their classrooms in a group administration. The Colombian participants completed a version of the questionnaire that had

been translated into Spanish by translators working in the areas of education and psychology. This adaptation was also backtranslated into English by a separate group of translators to ensure that the meaning of items was retained in the process.

Measures

The participants completed three measures: (a) a peer assessment measure of school performance, (b) an altered version of Harter's (1982) Perceived Competence Scale for Children, and (c) an abbreviated version of the Bem Sex Role Inventory Bem (1974). The participants completed these inventories *via* a paper-and-pencil format at their desks in class. At least three members of the project team were in each classroom to make sure the participants understood the instructions and to answer any questions about how to complete the measures.

Peer Assessment Measure

Peer assessment procedures are used to assess how children are perceived by their peers. These procedures are known to provide valid and reliable measures of children's competence and effective functioning (Bukowski et al., 2012). In a peer assessment procedure, participants are shown a list of items that describe forms of functioning and are asked to indicate which of their participating classmates fit each description. In this study, two items were used to assess school performance. They were "Someone who is smart and does well in school" ("Es intelligente y tiene un buen rendimiento academico en le escuela") and "Someone who always knows the right answers in school" ("Siempre sabe la respuesta correcta en la escuela"). Two scores were calculated for each participant on each item. These values correspond to the number of times the child was nominated for the item by same- and other-gender peers. Each score for each item was adjusted for possible biases that may result from variations in group size (see Velásquez et al., 2013). Separate corrections were made for the same-gender and other-gender measures. In this

study, only the same-gender measures were used. A school performance score was computed for each participant by adding the two class-size-adjusted same-gender scores together. When assessed using Cronbach's alpha, the reliability of this aggregated score was observed to be 0.92. The use of a peer assessment measure is advantageous as it provides a common measurement procedure across the schools and contexts included in the study. Other forms of measurement, such as school grades, can be problematic due to variations in the procedures used in different schools and places. The mean and standard deviation for this measure is 1.22 and 1.88.

Bem Sex Role Inventory

The participants rated ten words taken from Bem's (1974) BSRI. Two of these words were "feminine" and "masculine;" the other eight words were chosen based on two criteria. First, we chose words for which there was strong empirical evidence of their alignment with the femininity and masculinity dimensions used in Bem's (1974) initial studies. Second, the words had to be relevant to the preadolescent participants in the study. The four words were taken from the femininity scale were "Affectionate," "Sympathetic," "Understanding," and "Sensitive to the Needs of Others." This set of items was seen as representative of communal orientation. The four words taken from the masculinity dimension were "Independent," "Athletic," "Leader" and "Forceful." They were interpreted as representing instrumentality/assertiveness. Using a five-point scale in which a "1" represented "Not like me at all" ("No me describe") and a "5" equated to "Just like me" ("Me describe"), each participant rated each word according to whether it provided a true description of the self. The scores on the items for each measure were initially analyzed with a principal components factor analysis. The observed factor loadings were used to create a communal orientation score and an instrumentality/assertiveness score for each participant. To create these scores, the items were weighted by the observed factor loadings from

the PCA. The internal consistency of these scales, assessed with omega, was 0.77 and 0.82 for the instrumentality/assertiveness and communal orientation scales, respectively. The mean and standard deviation for the instrumentality/assertiveness measure are 3.69 and 1.00; the mean and standard deviation for the communal orientation measure is 3.93 and 0.97.

Perceived Competence Sale for Children

Self-perceived cognitive competence was measured using selected items from Harter's (1982) Perceived Competence Scale for Children. A set of seven items adapted from Harter's original scale were used to assess positive views of cognitive competence. Consistent with the rating scale concerns raised by Yeager and Krosnick (2011), the items were written to fit a simple five-point scale in which 1 meant "never true" and 5 meant "always true." The preadolescents were instructed to read each description and indicate how well each one fit their self-view. The items were "I feel that I am very good at my school," "I feel like I am just as smart as other kids my age," "I like school because I do well in school," "I am pretty slow in finishing my schoolwork," "I often forget what I learn," "I wish it were easier to understand what I read," and "I have trouble figuring out the answers in school." The last four items were reversed self-perceived competence items. As with the procedures used with the BSRI items, the scores on these items were initially analyzed with a Principal Components Factor Analysis. The observed factor loadings were used to create a self-perceived competence score for each participant. To create this score, the items were weighted by the observed factor loading from the PCA. The internal consistency of this scale, assessed with omega, was observed to be 0.76. The mean and standard deviation for this measure are 3.65 and 0.79. (The means (and standard deviations) for all the person-level variables are shown in Table 10 for the categorical combinations of cisgender, SES, and place.) Other variables included in the analyses were place, coded as −1 for

Montreal and 1 for Barranquilla, cisgender (i.e., the gender assigned to the child at birth) coded as −1 for boys and 1 for girls, and SES coded as −1 for lower-middle-class and 1 for upper-middle-class.

Results

Analyses were conducted with Mplus (Muthén & Muthén, 2015). A two-phase procedure followed. In the first phase, person-level variables were used as predictors of the outcome measure (i.e., the measure of self-perceived cognitive competence). In the second phase, mulitigroup comparisons were performed to assess whether any of the associations observed in the first phase differed as a function of place (i.e., Barranquilla and Montreal), SES, and the intersection between place and SES.

In the first phase, eleven variables were used as predictors of the dependent variable (i.e., self-perceived cognitive competence). These predictors were used to capture the univariate and the interactive effects of the peer-assessed measure of academic performance and the three gender measures. The eleven predictors were: (a) the peer-assessed measure of school performance, (b) the participant's cisgender, (c) the measure of instrumentality/assertiveness, (d) the measure of communal orientation, (e) the two-way interaction between the peer-assessed measure of school performance and the cisgender measure, (f) the two-way interaction between peer-assessed school performance and communal orientation, (g) the two-way interaction between peer-assessed school performance and the measure of instrumentality/assertiveness, (h) the two-way interaction between the cisgender measure and communal orientation, (i) the two-way interaction between the cisgender measure and the measure of instrumentality/assertiveness, (j) the three-way interaction between the cisgender measure, peer-assessed school performance, and communal orientation, and (k) the three-way interaction between the cisgender measure,

peer-assessed school performance, and instrumentality/assertiveness. The statistically significant findings are reported in Table 11.

Initial analyses revealed statistically significant coefficients for five of the predictors, specifically (a) the peer-assessed school competence measure (standardized coefficient = 0.36, standard error = 0.03 $t = 10.90$, $p < 0.001$), (b) cisgender (standardized coefficient = 0.08, standard error = 0.04 $t = 2.33$, $p < 0.02$), (c) communal orientation (standardized coefficient = 0.12, standard error = 0.04, $t = 3.38$, $p < 0.001$), (d) the two-way interaction between the peer-assessed school performance measure and cisgender (standardized coefficient = –0.10, standard error = 0.035, $t = –2.87$, $p < 0.005$), and (e) the two-way interaction between communal orientation and cisgender (standardized coefficient = 0.071, standard error = 0.039, $t = 2.44$, $p < 0.15$). A clarification of the two-way interaction between the peer-assessed school performance measure and cisgender indicated that the association between self-perceived cognitive competence and peer-assessed school performance was stronger for boys (coefficient = 0.43) than girls (coefficient = 0.27). A clarification of the two-way interaction between communal orientation and cisgender indicated that the association between self-perceived cognitive competence and communal orientation was stronger for girls (coefficient = 0.19) than for boys (coefficient = 0.04).

Multigroup comparisons, conducted with Mplus, were then performed to assess whether these associations differed (a) for the participants from the two places, (b) for the participants from the lower-middle-class and upper-middle-class schools, and (c) for the participants from the four groups defined by a combination of place and SES (i.e., lower-middle-class participants from Barranquilla, lower-middle-class participants from Montreal, upper-middle-class participants from Barranquilla, and upper-middle-class participants from Montreal). Each

multigroup comparison consisted of a two-step process (see Wang & Wang, 2019). In the first step, equality constraints were used to set the coefficients for a particular association to be equal across groups (e.g., the upper-middle-class and the lower-middle-class participants). If the coefficients for these groups were equal to each other, then setting them to be equal would not affect the overall fit of the model. If the coefficients were not equal to each other, then setting them to be equal would have an adverse effect of model fit. This negative effect of model fit would be manifested in an increase in the Chi-square value. In the second step of this comparative procedure, a chi-square difference test was used to assess the statistical significance of the change in the chi-square value.

Comparisons of the coefficients observed with the participants from the two places revealed no statistically significant differences. Comparisons that assessed differences between the participants from lower-middle-class and upper-middle-class schools revealed only one statistically significant difference. Specifically, the two-way interaction between cisgender and communal orientation was observed to be weaker and statistically non-significant with the participants from the lower-middle-class schools (standardized coefficient = –0.03, standard error = 0.058, $t = -0.53$, $p > 0.5$), whereas it was statistically significant with the participants from the upper-middle-class schools (standardized coefficient = 0.13, standard error = 0.044, $t = 2.88$, $p < 0.005$). The positive coefficient observed with this two-way interaction for the participants from the upper-middle-class schools indicates that the effect of a communal orientation was stronger for girls than for boys.

Multigroup comparisons conducted with the four groups defined by a combination of place and SES revealed three between-group differences. First, the measure of peer-assessed school competence was observed to be more strongly associated with the outcome measure for

the upper-middle-class participants from Barranquilla (standardized coefficient = 0.41) than for the lower-middle-class participants from Barranquilla (standardized coefficient = 0.26). The corresponding values for the upper-middle-class and lower-middle-class participants from Montreal were 0.28 and 0.36, respectively. These coefficients did not differ from each other. All of these coefficients were statistically significant. It is important to note that the differences between the upper-middle-class participants and lower-middle-class participants showed a different pattern in Montreal (lower-middle class was *higher* than upper-middle class) than in Barranquilla (lower-middle class was *lower* than upper-middle class).

A second difference was observed with the association between communal orientation and self-perceived academic competence. This association was observed to be stronger for the lower-middle-class participants from Montreal (standardized coefficient = 0.19, standard error = 0.082, $t = 2.25$, $p < 0.02$) than for the lower-middle-class participants from Barranquilla (standardized coefficient = −0.024, standard error = 0.082, $t = 0.29$, $p < 0.75$). The corresponding values for the upper-middle-class participants from Montreal and Barranquilla were 0.07 (standard error = 0.075, $t = 0.96$, $p > 0.3$) and 0.14 (standard error = 0.055, $t = 2.63$, $p < 0.009$). Again, a different pattern of findings was observed in Montreal (lower-middle class was *higher* than upper-middle class) than in Barranquilla (lower-middle class was *lower* than upper-middle class).

The third set of differences was observed with the association between two-way interaction between cisgender and communal orientation and the measure of self-perceived academic competence. The coefficients for the association between this interaction score and the outcome were observed to be positive and statistically significant with the participants from upper-middle-class schools in Montreal (standardized coefficient = 0.14, standard error =

0.07, $t = 1.98$, $p < 0.05$) and Barranquilla (standardized coefficient = 0.12, standard error = 0.055, $t = 2.15$, $p < 0.03$) and negative and statistically non-significant with the participants from lower-middle-class schools in Montreal (standardized coefficient = –0.09, standard error = 0.082, $t = -1.29$, $p > 0.3$) and Barranquilla (standardized coefficient = –0.022, standard error = 0.082, $t = -0.26$, $p > 0.7$). Group comparisons indicated that the coefficients for the participants from the upper-middle-class school differed from the coefficient observed with the participants from the lower-middle-class schools in Montreal. The positive value of the coefficients observed with the participants from the upper-middle-class school indicates that for these participants, the association between communal orientation and the outcome measure (i.e., the measure of self-perceived cognitive competence) is stronger for girls than for boys.

Discussion

Two key findings were revealed. The first is that the measures of gender roles are associated with self-perceived cognitive competence as univariate predictors and as moderators. As importantly, our findings were varied as a function of place and SES. These findings point to the complex pattern of the factors associated with self-perceived cognitive competence and its association with specific components of gender. The findings confirm two basic features of the study's conceptual frame. Specifically, the findings show that the associations observed with gender-related variables will vary as a function of contextual factors – especially intersection between culture and SES. The findings also show that adherence to gender roles is associated with self-perceived cognitive competence in a direct manner and as a moderator of experience. This evidence of the importance of gender role adherence was, however, observed only with the dimension of communal orientation and only in particular contexts.

A primary finding from the study is the observation that the association between peer-assessed school performance and self-perceived cognitive competence is moderated by the cisgender measure, and that this interaction is moderated by an interaction between place and SES and by the cisgender measure. Peer-assessed school competence was observed to be more strongly associated with the outcome measure for the upper-middle-class participants from Barranquilla than for the lower-middle-class participants from Barranquilla. The opposite pattern was observed with the Montreal participants; albeit to a smaller and statistically non-significant degree. The moderating effect of the cisgender measure indicated that the association between peer-assessed school performance and self-perceived cognitive competence was weaker for girls than for boys. Consistent with prior findings, self-perceptions of cognitive competence appear to be less dependent on actual experience for boys than for girls. These findings confirm our prior results, observed with a different sample, that gender differences may be stronger for upper-middle-class children in the Colombian context (Santo et al., 2013). They also provide an explanation for Van Houtte's (2004) observation of stronger achievement levels among boys than girls.

The second important result pattern also points to a difference between girls and boys. This two-way interaction indicates that the association between communal orientation and self-perceived cognitive competence was stronger for girls than for boys. This finding provides partial support for our reasoning that the gender-role measure may overlap with the self-perceived competence measure. To a small degree, girls who see themselves as communally oriented also see themselves as being competent in cognitive tasks. This pattern was further moderated by SES and place, and was seen only among the participants from the upper-middle-class school in Montreal. Hence, this shows that the effect of gender varies as a function of

culture and SES. In this way, these findings provide partial support for our speculation that gender roles are intertwined with perceptions of cognitive competence. This evidence was, however, limited in two ways. First, it was observed only with the measure communal orientation. Second the effect of communal orientation was observed only for girls from upper-middle-class neighborhoods in the two places. These findings reveal a high level of specificity in gender-related findings. Together, these findings emphasize the importance of gender in models of self-perceived academic competence.

Our analyses revealed three statistically significant univariate findings and two statistically significant two-way findings at the level of the person. Positive associations were observed between self-perceived cognitive competence and (a) peer-assessed school performance, (b) the cisgender measure (i.e., girls showed stronger judgments of their cognitive abilities than boys) and (c) communal orientation. Additionally, statistical analyses involving two-way interactions across these measures (i.e., cisgender and school performance; cisgender and communal orientation) revealed that academic achievement was more predictive of boys' self-judgments of their cognitive competence as compared to girls, whereas communal orientation was more predictive of self-perceived cognitive competence for girls.

The group comparisons show that the meaning of gender around scholastic achievement and self-assessed cognitive competence is contextually dependent, particularly across SES groups. That is, a two-way interaction between cisgender and communal orientation was predictive of cognitive competence among children attending upper-middle-class schools, but not lower-middle-class schools. Notably, this effect appeared stronger for girls relative to boys. Between-group comparisons further highlighted the complexities of contextual variations, in that communal orientation was related to self-assessed cognitive competence in lower-middle-class

schools in Montreal, but not Barranquilla. Additionally, the interaction between cisgender and communal orientation was predictive of the outcome in upper-middle class schools in both Montreal and Barranquilla. Analyses also revealed that this effect was stronger for girls than it was for boys. Perhaps the most important finding from the study is the observation that the self-perceptions of cognitive competence among girls and boys from lower SES neighborhoods in Barranquilla appear to be unaffected gender roles. This finding is important as it supports the basic premise of the study that the significance of gender varies across cultural contexts. Although an exact interpretation of this pattern of findings is elusive, at the very least they indicate that the meaning of the measures of gender used in our analyses are different for the low SES participants from Barranquilla. It may be that the concepts themselves (i.e., a communal orientation and assertiveness/instrumentality) are not as "gendered" for the low SES participants from Barranquilla. A further exploration of these findings may benefit from an assessment of how these measures are associated with gender-related constructs such as gender typicality and felt pressure to conform (see Egan & Perry, 2001) to conform and whether these associations vary as a function of SES and culture. Together, these findings indicate that the SES composition of classrooms across geographic location shape the gender norms around academic achievement and cognitive competence.

Researchers have already suggested that hegemonic gender norms are evoked and sanctioned depending on the social context in which they occur (Ridgeway & Correll, 2004; Morris, 2011; Hsin, 2018). The school context is therefore a major channel for how these gender norms are expressed and actualized in young adolescents' achievement outcomes (Hasin, 2018). Ethnographic studies demonstrate that divergent achievement patterns for boys and girls evolve from cultures of masculinity that minimize the importance of boys performing well academically

(e.g., United Kingdom: Mac an Ghaill, 1994; Australia: Martino, 1999; United States: Pascoe, 2007). Certain academic disciplines and study behaviors are regarded as "feminine," which has been shown to negatively affect boys' motivation toward school (Pajares & Valiante, 2001; Bhanot & Jovanovic, 2005). In fact, traits linked to femininity as well as those that are consistent with studious attitudes (e.g., being tidy, cooperative and passive) may even be advantageous for girls (Jones & Myhill, 2004; Beaman et al., 2006). Our findings support this view. Other research has shown that boys' peer groups in secondary school have tendencies to engage in less studious behaviors compared with girls, which notably accounts for the lower academic performance observed in boys (Van Houtte, 2004). Our findings fit well within this body of work. They highlight that the extent to which young adolescents, particularly girls, who identify with features of communal orientation also hold self-perceptions of their cognitive competence. A communal orientation may be largely consistent with the studious behaviors that have been identified in previous studies.

Furthermore, research has supported that gender differences in academics are strongly impacted by the SES composition of schools (Legewie & DiPrete, 2014). Legewie and DiPrete (2014) reported that high-SES classrooms promote girls' academic achievement because they are not gendered as "feminine" in terms of interests and pursuits. Interestingly, they also encourage boys' educational outcomes by influencing their choice in the science, technology, engineering and mathematics (STEM) fields. Qualitative studies further demonstrate how hegemonic gender expectations are promoted through school environments—particularly by emphasizing engagement in sports culture over academics for boys (Morris, 2008). Participating in sports reflects an expression of hegemonic masculinity by demonstrating toughness and physical strength (Morris, 2008). Taken together, schools with a high-SES compositions do not regard

academic achievement as a feminine pursuit, but more subtly enforce gendered behavior and interests for boys through the promotion of STEM trajectories and sports engagement.

The present set of findings are also consistent with this view but may reflect differences in the extent to which gender expectations in academic achievement are actualized across the developmental trajectory. We observed that the gender differences on self-competence were strongest in upper-middle-class schools in Montreal and Barranquilla. This may signal to more salient gender norms around academics for girls in upper-middle-class SES compositions. Similarly, it is also possible that there is less emphasis on STEM trajectories and sports engagement for boys in early adolescence, and thus less opportunity to shape self-perceived cognitive competence. Research in the field of self-efficacy (i.e., individuals' judgments around their ability to engage in behaviors that are required to achieve a desired objective) demonstrate gender differences emerging in early adolescence which increase over development (Huang, 2013). As such, we would expect divergent patterns to emerge as boys become exposed to more specific pressures for gender conformity as they progress in the school system and make choices about their future vocation. Specific academic courses were found to be important moderators of self-efficacy, in that previous work identified boys as having higher self-efficacy scores in mathematics and computer sciences, whereas girls showed elevations in language arts and small advantages on general academic self-efficacy (Van Houtte, 2004). Therefore, it would be of benefit for researchers to use statistical network analyses to examine how features of gender and cognitive competence vary as a function of academic courses, in addition to SES school composition and place variables.

Some limitations should be noted. First, the use of a cross-sectional design prevented causal interpretations. Follow-up studies using longitudinal designs are needed. Second, although

multiple measure of gender were used, one can imagine that including more measures of gender identity would add diversity to the findings. Third, the data were collected 20 years ago. Given that some aspects of gender identity may have changed in the intervening years (Donnelly & Twenge, 2017), a replication study using more recent data is needed. Fourth, the study relies to a great extent on self-report measures. Aspects of gender and the dimensions of the self-concept are typically with self-report procedures. The use of peer reports might add to the currently available measures of gender. Fifth, SES is a multilevel concept (Bukowski et al., 2020). Although it is often measured as a feature of an individual or a family, SES was used here ad a measure of the school context. A more complex approach to SES that included measure at the level of the group and the individual would expand our understanding of how SES intersects with gender and self perceptions of competence. Sixth, a richer conceptualization of gender is needed to understand the degree to which gender identity should be conceived of as a trait or as a conscious form of self-perception related to one's gender.

In conclusion, the present set of findings builds upon existing research to provide further insight into gender-related variations in self and academic achievement in early adolescence and across socio-geographical contexts. Our work highlights the specificity of gender differences in self-perceived cognitive competence in upper-SES compositions in schools, and thus ascribes meaning to features of gender that are dependent on gender expectations for scholastic achievement. While this study helps explain contextual variations in how young adolescents' self-perceptions of their cognitive competence are associated with their academic achievement, further research is required to disentangle course-specific nuances in order to reduce gender gaps and promote equality in academic achievement.

Table 10. Means (and standard deviations) for person-level variables for groups defined by participant gender, SES and place.

Group	Self-Perceived Cognitive Competence	Peer-Assessed School Performance	Communal Orientation	Instrumentality/ Assertiveness
Boys, Barranquilla, Lower Middle Class	3.40 (0.72)	0.84 (1.41)	3.92 (0.88)	3.92 (0.94)
Girls, Barranquilla, Lower Middle Class	3.53 (0.79)	1.01 (1.49)	4.11 (0.81)	4.00 (0.84)
Boys, Montréal, Lower Middle Class	3.75 (0.91)	1.36 (1.69)	3.91 (0.84)	3.99 (0.93)
Girls, Montréal, Lower Middle Class	3.96 (0.76)	1.45 (1.70)	4.34 (0.52)	3.66 (0.72)
Boys, Barranquilla, Upper Middle Class	3.62 (0.75)	1.22 (1.99)	3.63 (1.18)	3.60 (1.20)
Girls, Barranquilla, Upper Middle Class	3..70 (0.79)	1.09 (1.86)	3.93 (1.21)	3.47 (1.04)
Boys, Montréal, Upper Middle Class	3.51 (0.77)	1.27 (1.72)	3.77 (0.87)	3.76 (1.03)
Girls, Montréal, Upper Middle Class	3.69 (0.78)	1.30 (1.65)	3.96 (0.75)	3.54 (0.97)

Table 11. Person-related predictors of the self-perceived cognitive competence score.

Level 1 Variables	Standardized Coefficients (Standard Errors)	*t*-score (*p*-value)
Peer measure	0.36 (0.03)	10.90 (0.001)
Cisgender	0.08 (0.03)	2.33 (0.02)
Communal Orientation	0.12 (0.04)	3.38 (0.001)
Peer Measure by Cisgender	-0.10 (0.04)	-2.87 (0.005)
Peer Measure by Communal Orientation	0.07 (0.04)	2.05 ($p < 0.05$)

General Discussion

This dissertation examined gender identity development in school-aged children across diverse cultural contexts through three interconnected studies, utilizing community and cross-national samples from Barranquilla, Colombia, and Montréal, Canada. The research focused on replicating and extending the multidimensional gender identity model, investigating the impact of gender pressure on social and emotional functioning, and exploring the relation between gender and academic self-perceived competence.

Summary and Implications

Study 1 replicated the dual-identity model of gender (Martin et al., 2017), identifying four distinct gender identity clusters. Notably, it revealed that children's understanding of gender is not static throughout the school year. While children's perception of same-gender similarity remained relatively stable, their identification with other-gender traits fluctuated over time. This finding aligns with developmental research suggesting that flexibility in gender identity varies based on cognitive factors such as beliefs about gender constancy and categorization skills, as well as experiential influences like family and peer socialization (Trautner, Gervai, & Németh, 2003). The observation that more male students endorsed other-gender identity compared to females across SES and geographic locations may reflect classroom cultures that emphasize stereotypically "feminine" traits such as inclusivity and cooperation (Creemers & Reezight, 1999). Conversely, the higher frequency of same-gender identity endorsement among high-SES female students in Barranquilla suggests a potentially stronger internalization of societal messages about femininity or increased pressure to conform to gender norms in these environments.

Study 2 revealed complex interactions between gender identity, socioemotional outcomes, and cultural context, suggesting the importance of considering both environmental and internal factors in understanding gender identity development. The findings indicate that the relation between gender identity, peer victimization, anxiety, and gender pressure may vary across different gender similarity groups and cultural contexts. Children in the Both-Gender Similarity group reported higher levels of peer victimization, anxiety, and gender pressure, which appears to challenge previous literature suggesting that identifying with both genders may be socially advantageous (Bem, 1974; Martin et al., 2017). This underscores the significance of measurement differences in assessing gender identity and its outcomes. Specifically, variations in peer-assessed, self-assessed, and parent-assessed measures might elicit different outcomes, potentially influencing how children experience and express their gender identity. The significant three-way interaction observed in the Neither-gender Similarity group suggested that the relation between anxiety, gender pressure, and peer victimization was more pronounced in Barranquilla compared to Montréal. This appears to align with research on gender norms salience in early adolescence, which suggests that contextual variations may significantly impact associations between gender typicality and socioemotional distress. For instance, Smith et al. (2018) found that boys reporting lower gender typicality experienced increased loneliness and social anxiety in schools with more salient gender norms. Our findings may extend this understanding by considering how cultural norms such as machismo and marianismo could potentially intensify these pressures in Barranquilla, possibly influencing dimensions of intergroup bias and gender centrality of the Egan and Perry (2001) gender model. These cultural norms might create more internal conflict for children who do not align strongly with either gender group (i.e., Both-Gender Similarity and Neither-Gender similarity identity clusters). Indeed, the complexity of

gender appears to extend beyond a simple typicality-atypicality spectrum, as it may encompass multidimensional features that should be considered to fully understand the psychosocial outcomes associated with gender identity. Overall, these results suggest the necessity of examining both external sociocultural influences and internal psychological processes when exploring how gender identity affects social and emotional functioning (Egan & Perry, 2001; Yunger et al., 2004). Anxiety, an individual factor, appears to play a significant role in shaping children's experiences and responses to peer victimization and gender pressure (Yunger et al., 2004). Cultural norms and peer networks could further influence these experiences as children become entrenched within their peer groups, potentially impacting their gender identity development and psychosocial outcomes.

Study 3 examined the relation between peer-assessed school performance and self-perceived cognitive competence among preadolescents, considering the influence of gender-related factors and contextual variables. The study revealed two key findings that highlight the complex interplay between gender identity, SES, and cultural context in shaping children's academic self-perceptions. Firstly, peer-assessed school competence was more strongly associated with self-perceived cognitive competence for upper-middle-class participants from Barranquilla compared to their lower-middle-class counterparts. Notably, this association was weaker for girls than for boys. This gender difference may be attributed to the influence of high SES school environments on boys' academic trajectories, particularly in STEM fields. Legewie and DiPrete (2014) found that high-SES classrooms promote academic achievement for both genders but particularly encourage boys' educational outcomes in STEM fields. This emphasis could lead to a stronger alignment between boys' peer-assessed performance and self-perceived cognitive competence, especially if assessments are weighted towards STEM-related abilities.

The weaker association for girls might reflect a persistent gender gap in STEM self-perception, even in high-SES environments, aligning with previous research showing that girls often underestimate their abilities in traditionally masculine-typed subjects despite equal or superior performance (Eccles et al., 1993). Secondly, the association between communal orientation and self-perceived cognitive competence was stronger for girls than for boys, particularly in the upper-middle-class school in Montréal. Communal orientation, defined by Bem (1974) as traits such as being affectionate, sympathetic, understanding, and sensitive to the needs of others, aligns with research suggesting that hegemonic gender norms are context-dependent (Ridgeway & Correll, 2004; Hsin, 2018). Ethnographic studies have shown that cultures of masculinity often minimize the importance of boys' academic performance (United Kingdom: Mac an Ghaill, 1994; Australia: Martino, 1999; United States: Pascoe, 2007), while traits linked to femininity and studious attitudes may advantage girls academically (Jones & Myhill, 2004; Beaman et al., 2006). Our findings support this view, suggesting that communal orientation may be consistent with studious behaviours beneficial for academic achievement.

Limitations and Future Directions

This dissertation, while providing valuable insights into gender identity development across diverse cultural contexts, has several notable limitations. The creation of four gender identity clusters led to reduced sample sizes within each cluster, affecting the statistical power of our analyses. This limitation constrained our ability to detect subtle effects or interactions, particularly when examining complex relations between gender identity, cultural context, and psychosocial outcomes. Although we utilized conservative estimates through bootstrapping procedures in Studies 1 and 2, the reduced sample sizes remain a significant limitation. Our measurement approach also presented challenges in capturing the full complexity of gender

identity. While we endorsed a dual-identity view of gender, our reliance on features from the BSRI (1974) and indexes of femininity and masculinity in all three studies did not fully encompass the multidimensional nature of gender identity as conceptualized by Egan and Perry (2001). A more comprehensive assessment would have included other dimensions such as gender centrality and gender intergroup bias. These limitations highlight the ongoing difficulty in capturing the complexity and fluidity of gender identity, particularly in cross-cultural contexts where understandings of gender may vary significantly. Future research should address these limitations by employing larger, more balanced samples and utilizing more comprehensive measures of gender identity to better capture the intricacies of gender identity development in diverse cultural settings.

Future research in gender identity development should focus on applying network analysis to assess gender pressure more directly. This method would allow researchers to map social networks within classrooms or schools, examine how gender norms and pressures are transmitted, and analyze how an individual's position in the network relates to their gender identity and experiences of pressure. Additionally, gathering direct data on gender pressure and its impact on multiple dimensions of gender identity as outlined by Egan and Perry (2001) is crucial. This could involve developing new measurement tools or adapting existing ones to capture the nuanced experiences of gender pressure across different cultural contexts. Furthermore, there is a need to develop more robust, culturally adaptable measures of gender identity to capture its nuances across different cultural contexts. To achieve these goals, future studies should employ a mixed-methods approach, combining quantitative measures with qualitative techniques such as structured interviews, and focus groups. This comprehensive approach would provide a richer, more nuanced understanding of children's lived experiences of

gender identity and pressure across various cultural settings, allowing researchers to capture both broad patterns and individual perspectives that may be missed by quantitative measures alone.

Concluding Remarks

The findings of this research have significant implications for policy and practice in supporting children's gender identity development. Our results emphasize the importance of recognizing and responding to the varying cultural messages and internalized experiences that shape children's gender identities. Cultural norms, which vary significantly as a function of geographic location and socioeconomic status (SES), signal to children how to integrate gendered features as part of their identity. A crucial implication is the need to depathologize gender expressions that do not align with group norms and to celebrate gender diversity. Our research, along with other developmental studies, shows that it is common and developmentally appropriate for children to integrate features of both genders into their self-concept. This integration process is dynamic, changing over the course of the school year, likely influenced by messages in the classroom environment and broader societal contexts.

Educators and clinicians should be trained to recognize and support this fluidity in gender expression as a normal part of development, rather than viewing it as confusion or pathology. This approach can help create more inclusive environments that support all children's well-being and academic success, regardless of their gender identity or cultural background. Furthermore, the observed changes in gender identity over time highlight the importance of ongoing support and flexibility in educational and clinical approaches. Practitioners should be prepared to adapt their strategies as children's gender identities evolve, recognizing that this is a dynamic process influenced by various individual and contextual factors. By implementing these implications, we can work towards creating more inclusive, supportive environments that foster positive gender

identity development for all children, while respecting and celebrating the diversity of gender expressions across different cultural contexts.

References

Abele, A. E., & Wojciszke, B. (2007). Agency and communion from the perspective of self versus others. *Journal of Personality and Social Psychology* 93, 751. doi: 10.1037/0022 3514.93.5.751

Abele, A. E., Hauke, N., Peters, K., Louvet, E., Szymkow, A., & Duan, Y. (2016). Facets of the fundamental content dimensions: Agency with competence and assertiveness Communion with warmth and morality. *Frontiers in Psychology* 7:1810. doi: 10.3389/fpsyg.2016.01810

Alexander, K., Entwisle, D., & Horsey, C. (1997). From first grade forward: Early foundations of high school dropout. *Sociology of Education* 70, 87–107. doi:10.2307/2673158

Alpert-Gillis, L. J., & Connell, J. P. (1989). Gender and sex-role influences on children's self esteem. *Journal of Personality*, *57*(1), 97-114.

Averdijk, M., Ribeaud, D., & Eisner, M. (2022). External childcare and socio-behavioral development in Switzerland: Long-term relations from childhood into young adulthood. *Plos one*, *17*(3), e0263571.

Baker, E. R., Tisak, M. S., & Tisak, J. (2016). What can boys and girls do? Preschoolers' perspectives regarding gender roles across domains of behavior. *Social Psychology of Education, 19*(1), 23-39.

Bassoff, E. S., & Glass, G. V. (1982). The relationship between sex roles and mental health: A meta-analysis of twenty-six studies. *The Counseling Psychologist*, *10*(4), 105-112.

Bates, J. E., Bentler, P. M., & Thompson, S. K. (1973). Measurement of deviant gender development in boys. *Child Development*, 591-598.

Bates, J. E., Bentler, P. M., & Thompson, S. K. (1979). Gender-deviant boys compared with normal and clinical control boys. *Journal of Abnormal Child Psychology*, *7*, 243-259.

Beaman, R., Wheldall, K., and Kemp, C. (2006). Differential teacher attention to boys and girls in the classroom. *Educational review* 58, 339–366. doi: 10.1080/00131910600748406

Bem, S. L. (1974). The measurement of psychological androgyny. *Journal of consulting and clinical psychology* 42, 155. doi: 10.1037/h0036215

Bem, S. L. (1981). Gender schema theory: A cognitive account of sex typing. *Psychological Review, 88*(4), 354.

Bem, S. L., & Lewis, S. A. (1975). Sex role adaptability: One consequence of psychological androgyny. *Journal of personality and Social Psychology* 31, 634. doi: 10.1037/h0077098

Bhanot, R., & Jovanovic, J. (2005). Do parents' academic gender stereotypes influence whether they intrude on their children's homework? *Sex roles* 52, 597–607. doi: 10.1007/s11199005-3728-4

Birndorf, S., Ryan, S., Auinger, P., & Aten, M. (2005). High self-esteem among adolescents: Longitudinal trends, sex differences, and protective factors. *Journal of Adolescent Health* 37, 194–201. doi: 10.1016/j.jadohealth.2004.08.012

Bohman, J. (2021). "Critical Theory," in *The Stanford Encyclopedia of Philosophy*, ed. E. N. Zalta (Stanford, CA: Stanford University). (Spring 2021 Edition)

Bond, M. H., & Chi, V. M. Y. (1997). Values and moral behavior in mainland China. *Psychologia: An International Journal of Psychology in the Orient*.

Bong, M., & Skaalvik, E. M. (2003). Academic self-concept and self-efficacy: How different are they really? *Educational psychology review* 15, 1–40. doi: 10.1023/A:1021302408382

Bonvillain, N. (1989). Gender relations in native North America. *American Indian Culture and Research Journal, 13*(2).

Bronfenbrenner, U. (1994). Ecological models of human development. *International Encyclopedia of Education, 3*(2), 37-43.

Brophy, J. (1985). "Interactions of male and female students with male and female teachers," in *Gender influences in classroom interaction*, 115–142. doi: 10.1016/B978-0-12 752075-9.50011-8

Brown JD, Halpern CT, & L'Engle KL. 2005. Mass media as a sexual super peer for early maturing girls. J. Adolesc. Health 36:420–427

Brunner, M., Gogol, K. M., Sonnleitner, P., Keller, U., Krauss, S., & Preckel, F. (2013).Gender differences in the mean level, variability, and profile shape of student achievement: Results from 41 countries. *Intelligence* 41, 378–395. doi: 10.1016/j.intell.2013.05.009

Bukowski, W. M., B. Laursen, & K. H.Rubin (New York, NY: The Guilford Press),141–156.

Bukowski, W. M., & Raufelder, D. (2018). "Peers and the self," in *Handbook of peer interactions, relationships, and groups*, eds

Bukowski, W. M., Castellanos, M., Commisso, M., Persram, R., & Lopez, L. S. (2019). Contextual variations in children's perceptions of their peers as gender typical. *International Journal of Behavioral Development* 43, 309–313. doi: 10.1177/0165025419846427

Bukowski, W. M., Cillessen, A. H. N., & Velasquez, A. M. (2012). "The use of peer ratings in developmental research," in *Handbook of Developmental Research Methods*, eds B. Laursen, T. Little, and N. Card (New York, NY: Guilford Press), 211–228.

Bukowski, W. M., Dirks, M., Persram, R. J., Wright, L., & Infantino, E. (2020). Peer relations and socioeconomic status and inequality. *New Directions for Child and Adolescent Development* 2020, 27–37. doi: 10.1002/cad.20381

Bukowski, W. M., Dirks, M., Persram, R., Santo, J. B., DeLay, D., & Lopez, L. (2021). Contextual variations in associations between measures of aggression and withdrawal and functioning with peers: A replication study. *Developmental Psychology* 57, 2022 2031. doi: 10.1037/dev0000958

Bukowski, W. M., Lopez, M. L., Commisso, M., & DeLay, D. (under review). Historical and contextual variations in the association between gender role adherence and well-being: Revisiting an early paper from the Merrill-Palmer Quarterly.

Campbell, F. A., Pungello, E. P., & Miller-Johnson, S. (2002). The development of perceived scholastic competence and global self-worth in African American adolescents from low-income families: The roles of family factors, early educational intervention, and academic experience. *Journal of Adolescent Research* 17, 277–302. doi: 10.1177/0743558402173004

Carter, D. B., & McCloskey, L. A. (1984). Peers and the maintenance of sex-typed behavior: The development of children's conceptions of cross-gender behavior in their peers. *Social Cognition*, *2*(4), 294-314.

Carver, P. R., Yunger, J. L., & Perry, D. G. (2003). Gender identity and adjustment in middle childhood. *Sex roles*, *49*, 95-109.

Chubb, N. H., Fertman, C. I., and Ross, J. L. (1997). Adolescent self-esteem and locus of control: A longitudinal study of gender and age differences. *Adolescence* 32, 113.

Coates, S., & Person, E. S. (1985). Extreme boyhood femininity: Isolated behavior or pervasive disorder? *Journal of the American Academy of Child Psychiatry*, *24*(6), 702 709.

Cohen-Kettenis, P. T., Owen, A., Kaijser, V. G., Bradley, S. J., & Zucker, K. J. (2003). Demographic characteristics, social competence, and behavior problems in children with gender identity disorder: A cross-national, cross-clinic comparative analysis. *Journal of abnormal child psychology*, *31*, 41-53.

Cook, R. E., Nielson, M. G., Martin, C. L., & DeLay, D. (2019). Early adolescent gender development: The differential effects of felt pressure from parents, peers, and the self. *Journal of Youth and Adolescence*, *48*(10), 1912-1923.

Corby, B. C., Hodges, E. V., & Perry, D. G. (2007). Gender identity and adjustment in black, Hispanic, and white preadolescents. *Developmental Psychology*, *43*(1), 261.

Creemers, B. P., & Reezigt, G. J. (1999). The role of school and classroom climate in elementary school learning environments. In M. W. Fraser (Ed.), *School climate: Measuring, improving and sustaining healthy learning environments* (pp. 30-47). Falmer Press.

De Los Reyes, A., Augenstein, T. M., Wang, M., Thomas, S. A., Drabick, D. A., Burgers, D. E., & Rabinowitz, J. (2015). The validity of the multi-informant approach to assessing child and adolescent mental health. *Psychological bulletin*, *141*(4), 858.

De Vries, A. L., McGuire, J. K., Steensma, T. D., Wagenaar, E. C., Doreleijers, T. A., & Cohen Kettenis, P. T. (2014). Young adult psychological outcome after puberty suppression and gender reassignment. *Pediatrics*, *134*(4), 696-704.

Demir, M., Vissandjée, B., Jacobson, D., & Einstein, G. (2020). Where boys don't dance, but women still thrive: using a development approach as a means of reconciling the right to health with the legitimization of cultural practices. *BMC International Health and Human Rights, 20*(1), 1-10.

DeSouza, E. R., Baldwin, J., Koller, S. H., & Narvaz, M. (2004). A Latin American perspective on the study of gender. *Psychology and Developing Societies, 16*(2), 159-174.

Donnelly, K., & Twenge, J. M. (2017). Masculine and feminine traits on the Bem Sex-Role Inventory, 1993–2012: A cross-temporal meta-analysis. *Sex Roles: A Journal of Research* 76, 556–565. doi: 10.1007/s11199-016-0625-y

Drury, K., Bukowski, W. M., Velásquez, A. M., & Stella-Lopez, L. (2013). Victimization and gender identity in single-sex and mixed-sex schools: Examining contextual variations in pressure to conform to gender norms. *Sex Roles, 69*(7-8), 442-454.

DuBois, D. L., Tevendale, H. D., Burk-Braxton, C., Swenson, L. P., & Hardesty, J. L. (2000). Self-system influences during early adolescence: Investigation of an integrative model. *The Journal of Early Adolescence* 20, 12–43. doi: 10.1177/0272431600020001002

Dwivedi, A. K., Mallawaarachchi, I., & Alvarado, L. A. (2017). Analysis of small sample size studies using nonparametric bootstrap test with pooled resampling method. *Statistics in medicine*, *36*(14), 2187-2205.

Dwyer, C. A., & Johnson, L. M. (1997). "Grades, accomplishments, and correlates," in *Gender and fair assessment*, eds W. W. Willingham and N. S. Cole (Hillsdale, NJ: Lawrence Erlbaum Associates Publishers), 127–156.

Egan, S. K., & Perry, D. G. (2001). Gender identity: A multidimensional analysis with implications for psychosocial adjustment. *Developmental Psychology* 37, 451–463. doi:10.1037/0012-1649.37.4.451

Englander, K., Yáñez, C., & Barney, X. (2012). Doing science within a culture of machismo and marianismo. *Journal of International Women's Studies, 13*(3), 65-85.

Fabes, R. A., Martin, C. L., & Hanish, L. D. (2009). Children's behaviors and interactions with peers.

Fagot, B. I. (1985). Changes in thinking about early sex role development. *Developmental Review*, *5*(1), 83-98.

Greenwood D. 2016. Gender considerations of media content, uses, and impact on well-being. In The Routledge Handbook of Media Use and Well-Being: International Perspectives on Theory and Research on Positive Media Effects, ed. L Reinecke, MB Oliver, pp. 396 408. New York: Routledge/Taylor & Francis

Guay, F., Marsh, H. W., & Boivin, M. (2003). Academic self-concept and academic achievement: Developmental perspectives on their causal ordering. *Journal of educational psychology* 95, 124. doi: 10.1037/0022-0663.95.1.124

Halpern, H. P., & Perry-Jenkins, M. (2016). Parents' gender ideology and gendered behavior as predictors of children's gender-role attitudes: A longitudinal exploration. *Sex Roles, 74*(11-12), 527-542.

Harter, S. (1982). The perceived competence scale for children. *Child Development* 53, 87 97. doi: 10.2307/1129640

Harter, S. (1996). "Teacher and classmate influences on scholastic motivation, self-esteem, and level of voice in adolescents," in *Social motivation: Understanding children's school adjustment*, eds J. Juvonen and K. R. Wentzel (Cambridge: Cambridge University Press), 11–42. doi: 10.1017/CBO9780511571190.004

Harter, S. (2012). *Self-perception profile for adolescents: Manual and questionnaires.* Denver, CO: University of Denver. doi: 10.1037/t05703-000

Heine, S. J., & Lehman, D. R. (1999). Culture, self-discrepancies, and self satisfaction. *Personality and Social Psychology Bulletin*, *25*(8), 915-925.

Heyder, A., & Kessels, U. (2013). Is school feminine? Implicit gender stereotyping of school as a predictor of academic achievement. *Sex Roles: A Journal of Research* 69, 605 617. doi: 10.1007/s11199-013-0309-9

Hsin, A. (2018). Hegemonic gender norms and the gender gap in achievement: The case of Asian Americans. *Sociological Science* 5, 752–774. doi: 10.15195/v5.a32

Huang, C. (2013). Gender differences in academic self-efficacy: A meta-analysis. *European Journal of Psychology of Education* 28, 1–35. doi: 10.1007/s10212-011-0097-y

Jewell, J. A., & Brown, C. S. (2014). Relations among gender typicality, peer relations, an mental health during early adolescence. *Social Development*, *23*(1), 137-156.

Jones, S., & Myhill, D. (2004). 'Troublesome boys' and 'compliant girls': Gender identity an perceptions of achievement and underachievement. *British Journal of Sociology of Education* 25, 547–561. doi: 10.1080/0142569042000252044

Jule, A. (2014). "Gender theory," in *Encyclopedia of Quality of Life and Well-Being Research*, 2464–2466. doi: 10.1007/978-94-007-0753-5_1137

Juvonen, J., & Galván, A. (2009). Bullying as a means to foster compliance. *Bullying, Rejection, and Peer Victimization: A Social Cognitive Neuroscience Perspective*, 299 318.

Kane, E. W. (2006). “No way my boys are going to be like that!” Parents’ responses to children’s gender nonconformity. *Gender & Society*, *20*(2), 149-176.

Katz, P. A., & Walsh, P. V. (1991). Modification of children's gender-stereotyped behavior. *Child development*, *62*(2), 338-351.

Kingdon, D., Serbin, L. A., & Stack, D. M. (2017). Understanding the gender gap in school performance among low-income children: A developmental trajectory analysis. *International Journal of Behavioral Development* 41, 265–274. doi: 10.1177/0165025416631836

Klennert, V. (2023). *Transgender Health Disparities: Experiences of Societal Pressure, Gender Dysphoria, and Body Dissatisfaction* (Master's thesis, Arizona State University).

Kline, R. B. (2009). *Becoming a behavioral science researcher*. Guilford Press.

Kling, K. C., Hyde, J. S., Showers, C. J., & Buswell, B. N. (1999). Gender differences in self-esteem: A meta-analysis. *Psychological Bulletin* 125, 470. doi: 10.1037/0033 2909.125.4.470

Kochel, K. P., Ladd, G. W., & Rudolph, K. D. (2012). Longitudinal associations among youth depressive symptoms, peer victimization, and low peer acceptance: An interpersonal process perspective. *Child development*, *83*(2), 637-650.

Kohlberg, L. (1966). A cognitive-developmental analysis of children's sex-role concepts and attitudes. *Child Development, 37*(4), 451-463.

Kornienko, O., Santos, C. E., Martin, C. L., & Granger, K. L. (2016). Peer influence on gender identity development in adolescence. *Developmental psychology*, *52*(10), 1578.

Kulis, S., Marsiglia, F. F., Lingard, E. C., Nieri, T., & Nagoshi, J. (2008). Gender identity and substance use among students in two high schools in Monterrey, Mexico. *Drug and Alcohol Dependence, 95*(3), 258-268.

Kuzyk, O, Stella-Lopez, L., & Bukowski, M. W. (under review). *Understanding Gender Identity in Diverse Cultural Contexts Among School-Age Youth: Insights from a Cross National Study.*

Kuzyk, O., Gendron, A., Lopez, L. S., & Bukowski, W. M. (2022). Gender and contextual variations in self-perceived cognitive competence. *Frontiers in Psychology, 13*, 919870.

Legewie, J., & DiPrete, T. A. (2014). The high school environment and the gender gap in science and engineering. *Sociology of Education* 87, 259–280. doi: 10.1177/0038040714547770

Levy, G. D., Taylor, M. G., & Gelman, S. A. (1995). Traditional and evaluative aspects of flexibility in gender roles, social conventions, moral rules, and physical laws. *Child development*, *66*(2), 515-531.

Lewis, M., & Brooks-Gunn, J. (1979). *Social Cognition and The Acquisition of Self*. Plenum Press.

Liben, L. S., & Bigler, R. S. (2002). The developmental course of gender differentiation: Conceptualizing, measuring, and evaluating constructs and pathways. *Monographs of the Society for Research in Child Development, 67*(2), vii-147.

Lubinski, D., Tellegen, A., & Butcher, J. N. (1983). Masculinity, femininity, and androgyny viewed and assessed as distinct concepts. *Journal of Personality and Social Psychology*, *44*(2), 428.

Mac an Ghaill, M. (1994). *The making of men: Masculinities, sexualities and schooling.* Maidenhead: Open University Press.

MacQueen, J. (1967). Some methods for classification and analysis of multivariate observations. *Proceedings of the Fifth Berkeley Symposium on Mathematical Statistics and Probability, 1*(14), 281-297.

Maltz, D., & Archambault, J. (1995). Gender and Power in Native North America: Concluding Remarks. In S. L. S. & D. M. (Eds.), *Women and power in native North America* (pp. 230 250). University of Oklahoma Press.

Mancera, B. M., Dorgo, S., & Provencio-Vasquez, E. (2017). Risk factors for Hispanic male intimate partner violence perpetration. *American Journal of Men's Health, 11*(4), 969 983.

Marsh, H. W., & Martin, A. J. (2011). Academic self-concept and academic achievement: Relations and causal ordering. *British Journal of Educational Psychology* 81, 59–77. doi: 10.1348/000709910X503501

Martin, C. L. (1989). Children's use of gender-related information in making social judgments. *Developmental Psychology*, *25*(1), 80.

Martin, C. L., & Dinella, L. M. (2012). Congruence between gender stereotypes and activity preference in self-identified tomboys and non-tomboys. *Archives of Sexual Behavior*, *41*, 599-610.

Martin, C. L., & Ruble, D. N. (2010). Patterns of gender development. *Annual Review of Psychology, 61*, 353-381.

Martin, C. L., Andrews, N. C., England, D. E., Zosuls, K., & Ruble, D. N. (2017). A dual identity approach for conceptualizing and measuring children's gender identity. *Child Development, 88*(1), 167-182.

Martin, C. L., Cook, R. E., & Andrews, N. C. (2017). Reviving androgyny: A modern day perspective on flexibility of gender identity and behavior. *Sex Roles*, *76*, 592-603.

Martino, W. (1999). 'Cool boys', 'party animals', 'squids' and 'poofters': interrogating the dynamics and politics of adolescent masculinities in school. *British Journal of Sociology of Education* 20, 239–263. doi: 10.1080/01425699995434

Mehta, C. M., & Strough, J. (2009). Sex segregation in friendships and normative contexts across the life span. *Developmental review*, *29*(3), 201-220.

Miller, C. F., Trautner, H. M., & Ruble, D. N. (2006). The role of gender stereotypes in children's preferences and behavior. In D. K. S. & R. C. P. (Eds.), *Child Psychology: A Handbook of Contemporary Issues* (pp. 293-323). Psychology Press.

Morris, E. W. (2008). "Rednecks," "rutters," and 'rithmetic: Social class, masculinity, and schooling in a rural context. *Gender & Society* 22, 728–751. doi: 10.1177/0891243208325163

Morris, E. W. (2011). Bridging the gap: 'Doing gender', 'hegemonic masculinity', and the educational troubles of boys. *Sociology Compass* 5, 92–103. doi: 10.1111/j.1751 9020.2010.00351.x

Muthén, L. K., & Muthén, B. O. (2015). *Mplus* (Version 7) [Computer Software]. Los Angeles, CA: Muthén & Muthén.

Neuburger, S., Jansen, P., Heil, M., & Quaiser-Pohl, C. (2012). A threat in the classroom: Gender stereotype activation and mental-rotation performance in elementary school children. *Zeitschrift für Psychologie* 220, 61. doi: 10.1027/21512604/a000097

Newman, L. K. (2002). Sex, gender and culture: Issues in the definition, assessment and treatment of gender identity disorder. *Clinical Child Psychology and Psychiatry, 7*(3), 352-359.

Newman, S. (2002). Constructing political culture theory: The political science of Ronald Inglehart. *Politics & Policy*, *30*(4), 597-622.

Nielson, M. G., Schroeder, K. M., Martin, C. L., & Cook, R. E. (2020). Investigating the elation between gender typicality and pressure to conform to gender norms. *Sex Roles*, *83*, 523-535.

O'Mara, A. J., Marsh, H. W., Craven, R. G., & Debus, R. L. (2006). Do self-concept interventions make a difference? A synergistic blend of construct validation and meta analysis. *Educational Psychologist* 41, 181–206. doi: 10.1207/s15326985ep4103_4

Pajares, F., & Valiante, G. (2001). Gender differences in writing motivation and achievement of middle school students: A function of gender orientation? *Contemporary Educational Psychology* 26, 366–381. doi:0.1006/ceps.2000.1069

Pascoe, C. J. (2007). *Dude, you're a fag: Masculinity and sexuality in high school.* Berkeley, CA: University of California Press. doi: 10.1525/9780520941045

Pauletti, R. E., Menon, M., Cooper, P. J., Aults, C. D., & Perry, D. G. (2017). Psychological androgyny and children's mental health: A new look with new measures. *Sex Roles*, *76*, 705-718.

Pearse, R., & Connell, R. (2016). Gender norms and the economy: Insights from social research. *Feminist Economics, 22*(1), 30-53.

Perrotte, J. K., & Zamboanga, B. L. (2019). Traditional gender roles and alcohol use among Latinas/os: A review of the literature. *Journal of Ethnicity in Substance Abuse*.

Pyszczynski, T., Greenberg, J., Hamilton, J., & Nix, G. (1991). On the relationship between self focused attention and psychological disorder: A critical reappraisal.

Quatman, T., & Watson, C. M. (2001). Gender differences in adolescent self-esteem: An exploration of domains. *The Journal of Genetic Psychology* 162, 93–117. doi: 10.1080/00221320109597883

Rachkowski, R., & O'Grady, K. E. (1988). Client gender and sex-typed nonverbal behavior: Impact on impression formation. *Sex roles*, *19*, 771-783.

Reilly, D., Neumann, D. L., & Andrews, G. (2019). Gender differences in reading and writing achievement: Evidence from the National Assessment of Educational Progress (NAEP). *American Psychologist* 74, 445. doi: 10.1037/amp0000356

Rekers, G. A., Sanders, J. A., Strauss, C. C., Rasbury, W. C., & Morey, S. M. (1989). Differentiation of adolescent activity participation. *The Journal of Genetic Psychology*, *150*(3), 323-335.

Rhodes, J., Roffman, J., Reddy, R., Fredriksen, K., & Way, N. (2004). Changes in self esteem during the middle school years: A latent growth curve study of individual and contextual influences. *Journal of School Psychology* 42, 243–261. doi: 10.1016/j.jsp.2004.04.001

Ridgeway, C. L., & Correll, S. J. (2004). Unpacking the gender system: A theoretical perspective on gender beliefs and social relations. *Gender & society* 18, 510–531. doi: 10.1177/0891243204265269

Ristori, J., & Steensma, T. D. (2016). Gender dysphoria in childhood. *International Review of Psychiatry*, *28*(1), 13-20.

Roberts, A. L., Rosario, M., Slopen, N., Calzo, J. P., & Austin, S. B. (2013). Childhood gender nonconformity, bullying victimization, and depressive symptoms across adolescence and early adulthood: An 11-year longitudinal study. *Journal of the American Academy of Child & Adolescent Psychiatry*, *52*(2), 143-152.

Roberts, T. A. (1991). Gender and the influence of evaluations on self-assessments in achievement settings. *Psychological Bulletin* 109, 297. doi: 10.1037/0033 2909.109.2.297

Rogers, L. O., Scott, M. A., & Way, N. (2015). Racial and gender identity among Black adolescent males: An intersectionality perspective. *Child Development, 86*(2), 407-424.

Rose, A. J., & Montemayor, R. (1994). The relationship between gender role orientation and perceived self-competency in male and female adolescents. *Sex Roles*, *31*, 579-595.

Rubin, K. H., Bukowski, W. M., & Bowker, J. C. (2015). Children in peer groups. In M. H. L. & R. M. L. (Eds.), *Handbook of Child Psychology and Developmental Science, 4*(pp. 175 222). Wiley.

Ruble, D. N. (1994). A phase model of transitions: Cognitive and motivational consequences. In M. P. Z. (Ed.), *Advances in Experimental Social Psychology, 26*(pp. 163-214). Academic Press.

Ruble, D. N., Greulich, F., Pomerantz, E. M., & Gochberg, B. (1993). The role of gender related processes in the development of sex differences in self-evaluation and depression. *Journal of Affective Disorders* 29, 97–128. doi: 10.1016/0165 0327(93)90027-H

Ruble, D. N., Taylor, L. J., Cyphers, L., Greulich, F. K., Lurye, L. E., & Shrout, P. E. (2007). The role of gender constancy in early gender development. *Child Development*, *78*(4), 1121-1136.

Rueda-García, N. (2003). *The Challenge of Slums: The Case of Bogotá D.C., Colombia.* Nairobi: United Nations Human Settlements Programme.

Rueda, H. A., Hoffman, S., & Grytza, K. (2019). Proving their love: Violence and gender norms in descriptions of relationships among rural Mexican adolescents. *Children and Youth Services Review*, *105*, 104424.

Russell, S. T., Horn, S., Kosciw, J., & Saewyc, E. (2010). Safe schools policy for LGBTQ students and commentaries. *Social Policy Report*, *24*(4), 1-25.

Santo, J. B., Bukowski, W. M., Stella-Lopez, L., Carmago, G., Mayman, S. B., & Adams, R. E. (2013). Factors underlying contextual variations in the structure of the self: Differences related to SES, gender, culture, and "majority/nonmajority" status during early adolescence. *Journal of Research on Adolescence* 23, 69–80. doi: 0.1111/j.1532 7795.2012.00793.x

Sebastian, C., Burnett, S., & Blakemore, S. J. (2008). Development of the self-concept during adolescence. *Trends in Cognitive Sciences* 12, 441–446. doi: 10.1016/j.tics.2008.07.008

Signorella, M. L., Bigler, R. S., & Liben, L. S. (1993). Developmental differences in children′ s gender schemata about others: A meta-analytic review. *Developmental Review*, *13*(2), 147-183.

Silverman, W. K., La Greca, A. M., & Wasserstein, S. (1995). What do children worry about? Worries and their relation to anxiety. *Child development* 66, 671–686. doi: 10.2307/1131942

Skaalvik, E. M., & Valås, H. (1999). Relations among achievement, self-concept, and motivation in mathematics and language arts: A longitudinal study. *The Journal of Experimental Education* 67, 135–149. doi: 10.1080/00220979909598349

Skinner, O. D., Kurtz-Costes, B., Wood, D., & Rowley, S. J. (2018). Gender typicality, felt pressure for gender conformity, racial centrality, and self-esteem in African American adolescents. *Journal of Black Psychology*, *44*(3), 195-218.

Smith, D. S., & Juvonen, J. (2017). Do I fit in? Psychosocial ramifications of low gender typicality in early adolescence. *Journal of Adolescence*, *60*, 161-170.

Smith, D. S., Schacter, H. L., Enders, C., & Juvonen, J. (2018). Gender norm salience across middle schools: Contextual variations in associations between gender typicality and socioemotional distress. *Journal of Youth and Adolescence*, *47*, 947-960.

Spence, J. T., & Hall, S. K. (1996). Children's gender-related self-perceptions, activity preferences, and occupational stereotypes: A test of three models of gender constructs. *Sex Roles*, *35*, 659-691.

Statistics Canada. (2002). Tables 11–10-0012-01. Distribution of total income by census family type and age of older partner, parent or individual. Ottawa, ON: Statistics Canada.

Steensma, T. D., Cohen-Kettenis, P. T., & Zucker, K. J. (2018). Evidence for a change in the sex ratio of children referred for gender dysphoria: data from the center of expertise on gender dysphoria in Amsterdam (1988–2016). *Journal of Sex & Marital Therapy*, *44*(7), 713-715.

Stoddart, T., & Turiel, E. (1985). Children's concepts of cross-gender activities. *Child Development*, 1241-1252.

Tajfel, H., & Turner, J. C. (1986). The social identity theory of intergroup behavior. In S. Worchel & W. G. Aus- tin (Eds.), Psychology of intergroup relations (pp. 7–24). Chicago, IL: Nelson-Hall.

Van Houtte, M. (2004). Why boys achieve less at school than girls: The difference between boys' and girls' academic culture. *Educational Studies* 30, 159–173. doi: 10.1080/0305569032000159804

Velásquez, A. M., Bukowski, W. M., & Saldarriaga, L. M. (2013). Adjusting for group size effects in peer nomination data. *Social Development.* 22, 845–863. doi: 10.1111/sode.12029

Voyer, D., and Voyer, S. D. (2014). Gender differences in scholastic achievement: a meta analysis. *Psychological bulletin* 140, 1174. doi: 10.1037/a0036620

Wang, J., & Wang, X. (2019). *Structural Equation Modeling: Applications using Mplus.* Hoboken, NJ: John Wiley & Sons. doi: 10.1002/9781119422730

Ward, L. M., & Grower, P. (2020). Media and the development of gender role stereotypes. *Annual Review of Developmental Psychology*, *2*, 177-199.

World Health Organization [WHO]. (2017). *Gender, equity and human rights.* Available online at: http://www.who.int/gender-equity-rights/understanding/gender definition/en/ (accessed October 17, 2017)

Yeager, D. S., & Krosnick, J. A. (2011). Does mentioning "some people" and "other people" in a survey question increase the accuracy of adolescents' self reports? *Developmental Psychology* 47, 1674–1679. doi: 10.1037/a0025440

Young, R., & Sweeting, H. (2004). Adolescent bullying, relationships, psychological well being, and gender-atypical behavior: A gender diagnosticity approach. *Sex roles*, *50*, 525-537.

Yu, L., & Xie, D. (2010). Multidimensional gender identity and psychological adjustment in middle childhood: A study in China. *Sex Roles*, *62*, 100-113.

Yunger, J. L., Carver, P. R., & Perry, D. G. (2004). Does gender identity influence children's psychological well-being? *Developmental Psychology*, *40*(4), 572.

Zosuls, K. M., Andrews, N. C., Martin, C. L., England, D. E., & Field, R. D. (2016). Developmental changes in the link between gender typicality and peer victimization and exclusion. *Sex Roles*, *75*, 243-256.

Zucker, K. J. (2017). Epidemiology of gender dysphoria and transgender identity. *Sexual Health*, *14*(5), 404-411.

Zucker, K. J., Bradley, S. J., & Sanikhani, M. (1997). Sex differences in referral rates of children with gender identity disorder: Some hypotheses. *Journal of Abnormal Child Psychology*, *25*, 217-227.

Zucker, K. J., Wood, H., & VanderLaan, D. P. (2013). Models of psychopathology in children and adolescents with gender dysphoria. *Gender dysphoria and Disorders of Sex Development: Progress in Care and Knowledge*, 171-192.

Appendix A

Information Letter to Parents (English)

Dear Parent(s),

I am a professor at Concordia University, where I teach and do research on children and adolescents. One of the topics I study is how children's experiences with their parents, friends, and teachers affect their well-being. This topic is of interest to many parents, teachers, and health professionals. The purpose of this letter is to tell you about a study my students and I are conducting with fifth- and sixth-graders at the St. John's School. This study will help us learn more about children, their health, and their development.

As part of the study, I will meet with the participating children in their classrooms six times over the school year, from October to December. These meetings will last about 20 minutes. We will meet the children in their school and I will ask them to fill out some questionnaires.

In these questionnaires, we will be asking children to identify:

- Who they typically associate with in school;
- The characteristics of other children in their class;
- Behaviors performed by other children in the class (e.g. helping, participating in certain types of activities, etc.);
- How they perceive themselves;
- How they perform in school and in their social relations.

All the questionnaires will be completed at the child's desk in school and none of the other children will know how any other child has answered the questions. The teachers will also complete a questionnaire about each child's competencies and their functioning in school.

We will also ask the participating children's parent(s) to complete a questionnaire for us. It will ask questions about family functioning, parental education and employment, and family income. *As an expression of our gratitude we will give two tickets to a local movie theater to parents who return the parent questionnaire to us.* Parents who choose not to fill out the parent questionnaires can still allow their children to take part in the study.

As a token of thanks, all participating children will receive a gift of school supplies and a t-shirt from the research team at the conclusion of the final data collection. In addition, we will be providing lectures to the students about mental health, and about ways to cope with the stressors they encounter in their daily lives.

We ask the children to maintain the privacy of their answers and we make certain that their answers are kept confidential.

People who do research with children or adults are required to describe the risks and benefits related to participating in their studies. We assure you that this study poses no risks, other than what children encounter in their day-to-day lives. It is not a treatment study, and it is not intended to provide direct benefits to the students who participate, though most children enjoy participating in such studies.

The information collected in this study will be completely confidential, and participation is entirely voluntary. Your child is not required to participate in this study. Furthermore, you may change your mind at any time even if you already gave your permission. Again, even if your child takes part in the study you are free to decide whether or not you wish to complete the parent questionnaire.

This study has been approved by both the School Board and the Concordia University Human Research Ethics Committee. If at any time you have questions or concerns regarding your rights or your child's rights as research participants, please feel free to contact the Research Ethics and Compliance Advisor of Concordia University, at ethics@alcor.concordia.ca.

If you have any other questions about the study, please call me at 514-848-2424 Ext. 2184 or send me a letter at: Department of Psychology, Concordia University, 7141 Sherbrooke Ouest, Montreal, QC, H4B 1R6. You can also email me at william.bukowski@concordia.ca.

Please fill out the attached form and have your child return it to his/her teacher tomorrow.

As an incentive for the children to return the permission slip, any child who returns a slip, regardless of whether his/her parent has given permission for participating, will get a Concordia University pen from the research team.

Thank you for your help. We very much appreciate it.

Sincerely,

William M. Bukowski
Professor

Appendix B

Information Letter to Parents (Spanish)

Estimado(s) padre(s),

Soy profesor en la Universidad de Concordia, donde enseño y realizar una investigación sobre los niños y los adolescentes. Uno de los temas que estudio es cómo las experiencias de los niños con sus padres, amigos y maestros afectan a su bienestar. Este tema es de interés para muchos padres, profesores y los profesionales de la salud. El propósito de esta carta es informarle sobre un estudio mis alumnos y yo estamos realizando con quinto y sexto grado en la Escuela San Lorenzo. Este estudio nos ayudará a aprender más acerca de los niños, su salud y su desarrollo.

Como parte del estudio, me reuniré con los niños y niñas participantes en las aulas seis veces durante el año escolar, de Octubre a Diciembre. Estas reuniones tendrán una duración de 20 minutos aproximadamente. Vamos a cumplir con los niños en la escuela y les pediré que rellenar algunos cuestionarios.

En estos cuestionarios, será pedir a los niños a identificar:

- Que suelen asociar con en la escuela;
- Las características de los demás niños de su clase.
- Conductas realizadas por otros niños de la clase (por ejemplo, participar en ciertos tipos de actividades, etc.);
- ¿Cómo se perciben a sí mismos.
- La forma en que lo hacen en la escuela y en sus relaciones sociales.

Todos los cuestionarios se completarán en el mostrador del niño en la escuela y ninguno de los otros niños sepan cómo cualquier otro hijo ha contestado a las preguntas.

También le pediremos los niños participantes del padre(s) a un cuestionario para nosotros. Lo que le hará preguntas sobre funcionamiento de la familia, la educación de los padres y el empleo, y los ingresos familiares. *Como una expresión de nuestra gratitud nos dará dos boletos para una sala de cine local a los padres que devolver el cuestionario para padres nosotros.* Los padres que deciden no llenar los cuestionarios de los padres pueden permitir que sus hijos a participar en el estudio.

Los profesores le pedirá que complete un breve cuestionario sobre el funcionamiento académico y social de los niños participantes.

Como prueba de agradecimiento, todos los niños participantes recibirán un regalo de una camiseta del equipo de investigación de la conclusión de la final de la recogida de datos. Por otra parte, estaremos ofreciendo charlas a los estudiantes sobre la salud mental y sobre los modos de hacer frente a los estresores que se encuentran en su vida diaria.

Nos pida a los niños a mantener la privacidad de sus respuestas y nos aseguramos que sus respuestas son confidenciales.

Las personas que hacen investigación con los niños o los adultos son necesarios para describir los riesgos y beneficios relacionados con participar en sus estudios. Te podemos asegurar que

este estudio no plantea riesgos, más que con lo que los niños encuentran en su día a día. No se trata de un estudio sobre tratamiento, y que no está diseñado para proporcionar beneficios directos a los estudiantes que participan en el programa, aunque la mayoría de los niños disfruta de participar en dichos estudios.

La información recogida en este estudio será completamente confidencial, y la participación es totalmente voluntaria. Su hijo no está obligado a participar en este estudio. Además, usted puede cambiar de opinión en cualquier momento, incluso si usted ya ha dado su permiso.

Este estudio ha sido aprobado por el Consejo Escolar y la Universidad de Concordia Comité de Ética de la investigación humana. Si en cualquier momento tiene preguntas o preocupaciones con respecto a sus derechos o derechos de su hijo/a los participantes de la investigación, por favor siéntase libre de contactar con la ética de la investigación y Asesor en materia de Observancia de la Universidad Concordia, en . ethics@alcor.concordia.ca

Si usted tiene otras preguntas acerca del estudio, por favor, póngase en contacto conmigo en 2424 ext 2184 514-848o me envíe una carta a: Departamento de Psicología, Universidad de Concordia, 7141 Sherbrooke Ouest, Montreal, QC, H4B 1R6. También puede enviar un correo electrónico a mí william.bukowski@concordia.ca.

Por favor, rellene el formulario adjunto y haga que su hijo vuelva a su maestro mañana.

Como un incentivo para el retorno de los niños el dictamen conforme formulario, cualquier niño que devuelve un deslizamiento, independientemente de si su padre ha dado permiso para la participación, se le dará un conjunto de la Universidad Concordia camadas por el equipo de investigación .

Gracias por su ayuda. Apreciamos mucho.

Sinceramente,

William M. Bukowski
El Profesor

Appendix C

Consent Form (English)

ONE WORLD WHOLE CHILD PROJECT

Grades 5 and 6 Good Shepherd School

PARENTAL CONSENT FORM

Please read and sign the following:

I understand that my daughter/son has been asked to be in a study conducted by Dr. W. M. Bukowski.

I understand that the study is about children's experiences with their parents, friends, and teachers and their adjustment. I understand that if my daughter/son participates she/he will be asked to answer some questionnaires at his/her desk in the classroom. I understand that the questionnaires are about how young people think and feel about themselves and their friends. I understand that the children will complete the questionnaires six times across the school year. I understand that all participating children will receive a gift of school supplies and a t-shirt from the research team at the conclusion of the final data collection.

I understand that my daughter/son does not have to be in the study. I understand that even if she/he starts to be in it but changes her/his mind she/he can quit at any time. I understand that all answers are confidential and will NOT be shown to anyone. Only Dr. Bukowski and his assistants will know what is in the questionnaires.

Please check one of the following and ask your daughter/son to bring this consent form into the homeroom class tomorrow.

____ My son/daughter <u>has permission</u> to take part in Dr. Bukowski's study

____ My son/daughter <u>DOES NOT have permission</u> to take part in Dr. Bukowski's study.

Parent's Name: _____

Signature: _____ DATE: _____

Child's Name: _____ CHILD'S SEX: □ Male □ Female

Appendix D

Consent Form (Spanish)

PROYECTO: UN MUNDO COMPLETO DEL NIÑO/A

Colegio Altamira, Quinto y Sexto Grado

CONSENTIMIENTO INFORMADO DE LOS PADRES DE FAMILIA

Por favor, leer y firmar lo siguiente:

Entiendo que se ha solicitado a mi hijo/a que participe en un estudio de investigación realizado por el Dr. W.M. Bukowski.

Entiendo que el estudio es acerca de las experiencias de los niños con sus padres, amigos y profesores y su bienestar personal. Entiendo que a mi hijo/a se le pedirá contestar algunos cuestionarios de forma individual en el salón de clase. Entiendo que los cuestionarios son acerca de la forma en que piensan y se sienten los jóvenes acerca de ellos mismos y de sus amigos. Entiendo que los niños/as completarán el cuestionario seis veces durante el año escolar. Entiendo que todos los niños que sean autorizados por sus padres recibirán como regalo un kit de útiles escolares y una camiseta del equipo de investigación al finalizar la recolección de datos.

Entiendo que la participación de mi hijo/a en el estudio no es obligatoria. Entiendo que incluso si mi hijo/a cambia de opinión, puede retirarse del estudio en cualquier momento. Entiendo que todas las respuestas son confidenciales y serán conocidas única y exclusivamente por el Dr. Bukowski y sus asistentes de investigación.

Por favor, marque una de las siguientes opciones y pídale a su hijo / a que lleve este consentimiento informado al colegio mañana:

____ Mi hijo/a tiene mi autorización para participar en el estudio del Dr. Bukowski.

____ Mi hijo/a NO tiene mi autorización para participar en el estudio del Dr. Bukowski.

Nombre del padre/madre: _____

Firma: _____ Fecha : _____

Nombre del niño/a: _____ Sexo: ☐ Niño ☐ Niña