FAMILY FACTORS AND PSYCHIATRIC DISORDERS AMONG PUERTO RICAN CHILDREN AND YOUTH IN TWO DIFFERENT SOCIOCULTURAL CONTEXTS

Olga Santesteban Echarri

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DOCTORAL THESIS
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COLUMBIA UNIVERSITY MEDICAL CENTER

FAIG CONSTAR que aquest treball, titulat “Family factors and psychiatric disorders among Puerto Rican children and youth in two different socio-cultural contexts”, que presenta Olga Santesteban Echarri per a l’obtenció del títol de Doctor, ha estat realitzat sota la meva direcció (**Adela Masana Marin)** al Departament de Medicina i Cirugia de la Universitat Rovira i Virgili (Tarragona, España) d’aquesta universitat, i que compleix amb els requisits per obtenir la Menció de Doctorat Internacional.

HAGO CONSTAR que el presente trabajo, titulado “Family factors and psychiatric disorders among Puerto Rican children and youth in two different socio-cultural contexts”, que presenta Olga Santesteban Echarri para la obtención del título de Doctor, ha sido realizado bajo mi dirección (**Ana M. Gaviria Gómez**) en el Departamento de Psicología de la Universidad de San Buenaventura (Medellín, Colombia), y que cumple con los requisitos para obtener la Mención de Doctorado Internacional.

I STATE that the present study, entitled “Family factors and psychiatric disorders among Puerto Rican children and youth in two different socio-cultural contexts”, presented by Olga Santesteban Echarri for the award of the degree of Doctor with the International has been carried out under my supervision (**Cristiane S. Duarte**) at the Division of Child and Adolescent Psychiatry of the Columbia University Medical Center – New York Psychiatric Institute (New York, US), and it fulfils the requirements in order to obtain the International Doctorate Mention.

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El/s director/s de la tesi doctoral
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Doctoral Thesis Supervisor/s

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A mis padres, Esperanza y Manuel, por confiar siempre en mí, por su paciencia y apoyo incondicional

"El modo de dar una vez en el clavo es dar cien veces en la herradura"
(Miguel de Unamuno)

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puedes chata!". A veces uno lo da por sentado, "porque son tus padres". Sin embargo, soy consciente de lo tremendamente afortunada que soy. Siempre han apoyado cada decisión profesional que he tomado aunque ello significara vivir lejos, muy lejos…. Mi hermana y Juan Carlos también siempre están ahí, pero además me han dado a Carla, mi sobrina, mi princesa. Sus "Skypes" me llenan de alegría los días y cuando estoy poco inspirada y dejaría la tesis de lado, sus vídeos me hacen sonreír como la tía más orgullosa del mundo y reanudar el trabajo con nueva energía.

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Olga

PROLOGUE

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This dissertation entitled *Family Factors and Psychiatric Disorders among Puerto Rican Children and Youth in two Different Socio-Cultural Contexts* is presented in fulfillment of the requirements for the Degree of Doctor with the International Doctorate Mention in the Department of Psychology at the Universitat Rovira i Virgili (URV), Spain. The three studies included in this dissertation have been elaborated under the direct supervision of Dr. Cristiane Duarte, PhD., M.P.H. in the Division of Child and Adolescent Psychiatry in the New York State Psychiatric Institute-Columbia Universtity Medical Center, New York (U.S.). The three studies are part of a novel line of investigation that examines the fine-grained details of parenting behaviors in children and adolescents and their association with child psychiatric disorders. The studies presented in the dissertation are:

1) Study 1: Parental warmth and psychiatric disorders among Puerto Rican children in two different socio-cultural contexts.
2) Study 2: Parental warmth and substance use disorders among Puerto Rican youth.
3) Study 3: Family structure, transitions and psychiatric disorders among Puerto Rican children.

Attached in the appendix are the accepted versions on the *Journal of Psychiatric Research* and the *Journal of Family and Child Studies* of the first and third study respectively.

SUMMARY OF THE THESIS

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1. Background

Puerto Rican families seem to be at elevated risk for future development of psychopathology compared with other Hispanic groups. Parental warmth (PW) has a strong influence on child development and may precede the onset of psychiatric disorders in children and youth including substance use problems. PW is interconnected with other family processes (e.g., coercive discipline, family structure) that may also influence the development of psychiatric disorders in children. However, during periods of family instability effective parenting practices (e.g., warmth, monitoring) may decrease and as a consequence, youth internalizing and externalizing symptoms may increase.

2. Objectives

(Study 1) To address whether parental warmth (PW) is associated with specific psychiatric disorders (i.e., anxiety, major depressive disorder (MDD), Attention Deficit and Hyperactivity Disorder (ADHD), and disruptive behavior disorder (DBD)) in Puerto Rican children and its changes over time. To explore whether: (1) PW would be associated with lower odds of youth psychiatric disorders over time; (2) PW would be related to youth psychiatric disorders independently of other parent and family factors (parental coercive discipline, parental monitoring, parental psychopathology, familism, and social support), and (3) there would be differences in the association between PW and different youth psychiatric disorders across sociocultural contexts (study site), child gender and age.

(Study 2) To prospectively examine (1) the unique relationship of PW and youth alcohol use, non-alcohol substance use (SU) (drugs, tobacco and marijuana), and any SU over three years among Puerto Rican youth; (2) whether youth from families with higher levels of PW, independently of other parental factors, would present lower levels of non- alcohol SU and any SU over the course of three years; (3) due to the lack of previous research regarding PW and alcohol and high rates of consumption of alcohol among this population, and we cast doubt about the role of PW over alcohol.

(Study 3) To examine the influence of family structure and family transitions on child psychiatric disorders in this population. We examined: (1) the influence of family structure (including cohabitation unions) on child psychiatric disorders, to verify, among Puerto Rican youth, if two-parent family structures would have a more beneficial impact on the development of psychiatric disorders compared with the single-parent family structure; (2) Whether Puerto Rican children whose families had experienced a family transition would have a higher risk of psychiatric disorders compared with those children living in a stable two-parent family (regardless of their marital status); (3) Whether other parental factors might have better explained possible effects of family structure or transitions towards child psychiatric disorders.

3. Methods

(Study 1) Boricua Youth Study participants, Puerto Rican children 5 to 13 years of age at Wave 1 living in the South Bronx, New York (U.S.) (SB) and in San Juan and Canguas Metropolitan Area, Puerto Rico (PR) (n=2,491), were followed for three consecutive years. *Measures*: PW was assessed through parental responses to

the Hudson's Index of Parental Attitudes, and The Diagnostic Interview Schedule for Children-IV (DISC-IV) measured youth psychiatric disorders. *Data analysis:* Generalized Linear Mixed models tested the association between PW (Wave 1) and psychiatric disorders in the next two years adjusting for demographic characteristics and family processes.

(Study 2) Participants from the Boricua Youth Study, Puerto Rican children 5-13 years of age at Wave 1 living in the South Bronx, New York (U.S.) (SB) and in San Juan and Canguas Metropolitan Area, Puerto Rico (PR), were consecutively followed over three years. Youth, who were 10 years old or older at Wave 1 were included in this analysis (n=1,271). *Measures:* PW was assessed through parental responses to the Hudson's Index of Parental Attitudes, and youth SU was measured using questions from the past year SU section of the Diagnostic Interview Schedule for Children-IV (DISC-IV). *Data analysis:* Generalized Linear Mixed Models were used to test the association between PW (Wave 1) and SU over the three waves controlling for demographics and family factors.

(Study 3) The study used longitudinal data (three waves) from the Boricua Youth Study, which included probability samples of children in the South Bronx, New York (U.S.) (SB) and in San Juan and Canguas Metropolitan Area, Puerto Rico (PR) (n=2,142). We examined factors that may explain how family structure and transitions may be related to child psychiatric disorders. *Measures:* Family structure: (a) two married bio-parents; (b) two cohabiting bio-parents (c) cohabiting with at least one step-parent; (d) married with at least one step-parent; (e) one single-parent; Family transitions: (a) stable two-parent family; (b) stable single-parent family; (c) 1

transition from single- to two-parent family; (d) 1 transition from a two- to single-parent family; (e) 2 transitions. Child internalizing and externalizing disorders were assessed with The Diagnostic Interview Schedule for Children-IV (DISC-IV). *Data analysis:* Two sets of logistic regression analyses stratified by site (SB and PR) were conducted.

4. Results

(Study 1) Higher levels of PW were related to lower odds of child anxiety and major depressive disorder over time (AOR=0.69, 95% CI: [0.60; 0.79]; AOR=0.49, 95% CI: [0.41; 0.58], respectively). The strength of the association between PW and ADHD and disruptive behavior disorder declined over time, although it was still significant in the last assessment (AOR=0.44, 95% CI: [0.37; 0.52]; AOR=0.46, 95% CI: [0.39; 0.54], respectively). PW had a unique influence on psychiatric disorders beyond the influence of other parenting and family processes. Stronger associations were observed among girls for depression and ADHD.

(Study 2) Higher levels of PW were related to lower odds of using non-alcoholic substances and any SU over time after adjusting for demographics, parent and individual factors (AOR=0.77, 95% CI: [0.62, 0.96]; AOR=0.81, 95% CI: [0.67, 0.99] respectively).

(Study 3) Our results showed that for both internalizing and externalizing disorders there were no significant differences between children of cohabiting (biological or step) parents or of single parents compared to children of married biological parents. In Puerto Rico only, transitioning once from a two-parent family to

a single-parent family was related to child internalizing disorders after adjusting for demographic, parental and child psychiatric disorders at Wave 1 (AOR=4.43; 95% CI [1.54, 12.68]). Family transitions were not associated with externalizing disorders at either site.

5. Conclusions

(Study 1) Incorporating PW behaviors such as acceptance, support, and comforting into interventions focused on parenting skills may help prevent child psychiatric disorders.

(Study 2) PW had an individual influence on SU problems beyond the influence of other parenting factors. Promoting interventions focused on parenting skills involving behaviors such as acceptance and support may prevent youth SU.

(Study 3) Context may be an important factor shaping the risk that family dissolution is followed by an internalizing disorder among children.

LIST OF ABBREVIATIONS

2P	Stable two-parent
2P→S	One transition from two to one parent
2T	Two transitions
ADHD	Attention deficit hyperactivity disorder
AOR	Adjusted odds ratios
ß	Beta
Bio-p	Biological parent
CI	Confidence interval
DBD	Disruptive behavioral disorder
DISC-IV	The Diagnostic Interview Schedule for Children-IV
e.g.,	For example
FHE	Family History Screen for Epidemiologic Studies
FPL	Federal poverty line
GLIMMIX	Estimation and inference for generalized linear mixed models
i.e.,	For instance
M	Mean
MDD	Major depressive disorder
OR	Odds ratio
p	*p*-value
PR	Puerto Rico
PSUs	Primary sampling units
PW	Parental warmth

S	Stable single-parent
S→2P	One transition from one to two parents
SAS	Statistical Analytical System
SB	The South Bronx
SD	Standard deviation
SE	Standard error
SMAs	Standard Metropolitan Areas
Step-p	Step-parent
SU	Substance use
U.S.	United States
W1	Wave 1
W2	Wave 2
W3	Wave 3
α	Chronbach's alpha

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INTRODUCTION

INTRODUCTION

Hispanics are the most numerous ethnic minority subgroup in the United States (U.S.) (Census Bureau, 2009). Among them, Puerto Ricans are the second largest subgroup of Hispanics in the U.S., concentrating in the Northeast part of the country and in New York (Oropesa, Landale, & Greif, 2008). Fast demographic changes are occurring in the U.S. with a quick growing of Hispanic population, which are expected to account for 25% (Bridges, Andrews, Deen, Andrews III, & Deen, 2012) or even 33% (US Census Bureau, 2008) of the U.S. population by the year 2050, depending on the source.

Importantly, Hispanic children are especially vulnerable in the U.S. due to the low socio-economic environment and social difficulties they face (Eaton et al., 2011). Nevertheless, among all Hispanic subgroups, Puerto Ricans stand in the most unfavorable position for most indicators of well-being (i.e., socio-economic status, health care access, low birth weight, teenager pregnancy, school drop-out) (García-Coll et al., 1996; National research Council, 2006). Moreover, Puerto Ricans have the highest rates for any lifetime disorder and differences in rates are statistically significant compared to other Hispanic subgroups (Alegría et al., 2008; Alegria, Shrout, et al., 2007; Flores et al., 2002). Although Hispanic groups share many cultural values (i.e., importance of family), these subgroups are not homogeneous and important disparities in outcomes arise when studying them separated. An important differentiation is the "involuntary minority" status of Puerto Ricans, brought to the U.S. through colonization. In order to understand peculiarities of Puerto Ricans compared with the mainstream White Americans, but also to other Hispanic

subgroups, it is necessary to understand Puerto Ricans socio-cultural context and their history within the U.S.

1. Understanding Puerto Rican socio-cultural context

In order to understand the uniqueness of Puerto Rican families it is important to carefully review the origin, status and different trajectories of Puerto Ricans in Puerto Rico and in the U.S. We briefly follow Puerto Rican history to understand current behaviors, attitudes, social identity, and socio-economic status. Furthermore, mental health and prevalence of psychiatric disorders, substance use and service use will be covered. Finally, other characteristics of Puerto Rican culture such as the Puerto Rican family and its structure, family values and parenting practices will be reviewed. Moreover, we will depict the design and procedures of the Boricua Youth Study (primary study from which secondary analysis were undertaken for this dissertation), before we describe the three studies included in this dissertation.

1.1. Brief Puerto Rican historical background

Puerto Rico is an archipelago (composed by Puerto Rico, *Isla Grande*; Vieques, *la Isla Nena*, Culebra, Mona and a few smaller islands) part of the Greater Antilles (Martinez-Aviles, 2011). The Taínos, the indigenous people inhabiting the archipelago of Puerto Rico before the Spanish colonization in 1492, used to call Puerto Rico "Boriquén" (Scarano, 1993; Sued Badillo, 1978, 1979), hence the name "Boricua" is used to refer to people of Puerto Rican background. Colonization extremely changed the Boricua population as Europeans and Africans (brought mainly as slaves by the Europeans) established fast in the island (Scarano, 1993). The Taíno population decreased significantly due to forced labor, massacre, higher rates of

suicide among indigenous population, and new illnesses Europeans brought for which Taínos were no immune (García Leduc, 2003; Rivera-Ramos, 2001). As a consequence, by 1802 the Taíno population only accounted for 1.4% of the Puerto Rican population, and it was the last time Taíno were listed as a separate ethnic group in the census (Picó, 2006; Rivera-Ramos, 2001). By the end of the 17th century due to the mixing of races (i.e., Taínos, Africans and Spaniards had blended), particular cultural and physical features arose that characterized the Boricua population (Rivera-Ramos, 2001; Silén, 1995).

After 400 years of Puerto Ricans living under the Spanish colonialism, Puerto Rico settled an Autonomous Charter from Spain in 1897 in order to self-govern. However, a year later Puerto Rico was invaded in by the U.S. military troops when the U.S. declared war to Spain (known as the Spanish American War) (García Leduc, 2003; Picó, 2006; Rivera Ramos, 2001). The following year, Spain ceded Puerto Rico to the U.S and from there the "Americanization of Puerto Rico" started as part of the Treaty of Paris (Picó, 2006; Rivera Ramos, 2001; Silén, 1995). Although Puerto Rico had high poverty rates as part of the Spanish colony, the change in currency to the U.S. dollar had a major negative effect on the Puerto Rican economy (Gallisá, 2010). Not only the economy and the political situation of Puerto Rico were disrupted, but also the culture. In 1910, the first attempt to granting the U.S. citizenship to Puerto Ricans took place, however, due to the opposition of both parts, it was not until 1917 that it was decided that Puerto Ricans would be citizens of the US (through the *Carta Orgánica de Puerto Rico de 1917*) (Rivera Ramos, 2001; Silén, 1995; U.S. Congress., 1917).

In 1952 the Puerto Rican constitution was approved by the U.S., and Puerto Rico was considered a territory which belonged but was not incorporated to the U.S.

However, Congress had "plenary powers" over Puerto Rico (Martinez-Aviles, 2011; Rivera-Ramos, 2001). After many years, the legal status of Puerto Ricans in relation to the U.S. changed substantially after becoming U.S. citizens.

1.2. Circular migration

One of the major changes of the new citizenship was the fact that Puerto Ricans could use the U.S. passport and travel in and out of the U.S. without going to the process of naturalization (Rivera-Ramos, 2001; U.S. Congress., 1917b) or through the Department of homeland Security or the Border Patrol (Rumbaut, 2006). Therefore, the status Puerto Ricans have since then as U.S. citizens by birth, distinguishes them from the rest of Hispanic groups living in the U.S. (Rumbaut, 2006).

The new legal status started with intense labor recruitment in 1900 when Puerto Rican harvesters moved to Hawaii to work in sugar cane plantations (Rumbaut, 2006), which also led to massive Puerto Rican migration flows to mainland U.S. (Durand, Telles, & Flashman, 2006). However socioeconomic constraints and social networks (i.e., family settled in mainland U.S.) maintained a constant move back and forth (i.e., circular migration) of Puerto Ricans from Puerto Rico to the U.S. (Juhász-Mininberg, 2004). Additionally, just after the World War II, the establishment of low airfares facilitated the communication between San Juan and New York for less than $50 (Rumbaut, 2006). Due to these social changes (i.e., work opportunities in mainland and cheap communications), compared to the barely 1,500 Puerto Ricans living in mainland U.S in 1910, by 1970 nearly a million and a half Puerto Rican descends were living in mainland U.S. (Rivera-Ramos, 2001). Importantly, as reported in the U.S. Census Bureau, (2011) the Puerto Rican

population in the U.S increased by 36% during the decade 2000-2010, and reached 4.6 million Puerto Ricans in mainland. Among them, 80% of the Puerto Ricans settled in New York in the 50's. However, the concentration has gradually dispersed and in 2000 New York only accounted for about 25% of the mainland Puerto Ricans (Rumbaut, 2006). Interestingly, as shown in Figure 1, Puerto Rico's population has decreased to such levels, that currently there are more Puerto Ricans living in the U.S. than in Puerto Rico (Ennis, Rios-Vargas, & Albert, 2011).

Migratory patterns of Puerto Ricans, with a vast majority of first generations settled down in mainland U.S. since the 1950s and the unique political relation between Puerto Rico and the U.S., shaped the language, one of the most important aspects of acculturation (Rumbaut, 2006). Indeed, English is an official language in Puerto Rico. Nevertheless, it seems that irrespective of the geographical location away from the island of Puerto Rico, the new generations of Puerto Ricans living in mainland maintain a strong connection with the Puerto Rican culture and identity (Duany, 2002).

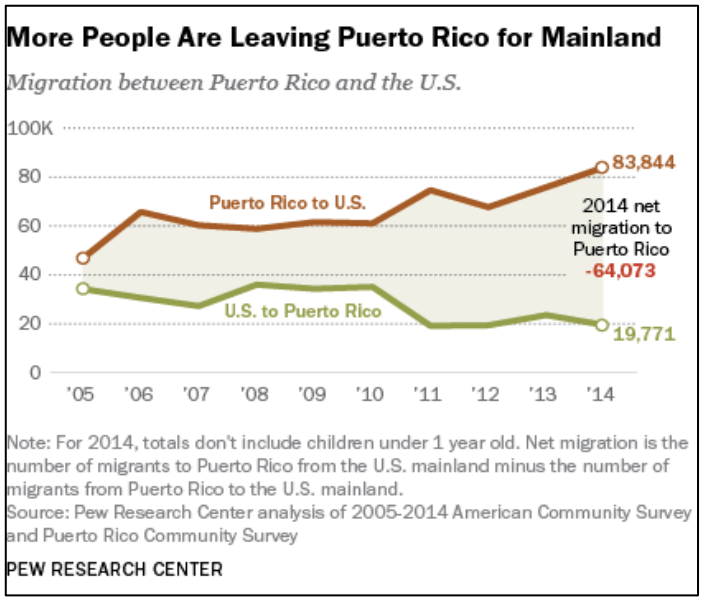

Figure 1. Migration from Puerto Rico to mainland U.S. and vice versa (2005-2014) (Krogstad, 2015). Source: (Brown & Patten, 2013).

1.3. Acculturation

Migratory patterns of Puerto Ricans led to numerous Puerto Ricans establishing in mainland U.S., facing a complex process of adaptation to a new country, culture, society where they are the minority population. This process, known as *acculturation*, has been associated in the U.S. with different negative indicators, such as increased mood, anxiety and substance disorders (Ortega, Rosenheck, Alegría, & Desai, 2000). Acculturation refers to those changes in an individual resulting from the direct and continuous contact to a different culture from their own (Redfield, Linton, & Herskovits, 1936). Connected, another aspect of this process is the *acculturative stress*, which is the level of distress an individual experiences as a consequence of the pressure to the adaptation to the new culture values and norms (Lindström, 2008). There is a fair amount of studies of acculturation in adults. Also, acculturation has been associated to depression among children (Canabal & Quiles, 1995). Nevertheless, the literature shows conflicting evidence, as acculturation has also been associated with better mental health outcomes (Bhui et al., 2005). For instance, data from the Boricua Youth Study did not find an association between youth acculturation and psychiatric disorders (antisocial behavior and internalizing disorders) (Duarte et al., 2008).

1.4. Social identity of Puerto Ricans

Despite the more than 100 years of U.S. hegemony over Puerto Rico, Puerto Ricans express a strong sense of community, identity and pride (Silén, 1995). This social identity was represented by the results of a national survey by the cultural institution *Ateneo Puertorriqueño* (Hispania Research Corporation, 1993), in which nearly all subjects (97.3%) self-identified as Puerto Ricans. Moreover, when

responding to the Census Boureau (2000) regarding their ethnic identity (Hispanic vs. non-Hispanic), 95.3% Puerto Ricans self-identified as Hispanic (Rumbaut, 2006). Regarding the question of "how different is Puerto Rican culture from the American culture", 56.2% answered ·very different" and 30.9% answered "different". Moreover, nearly 80% reported that it was "very important" for Puerto Ricans to maintain their national identity, and language was most essential and relevant component of Puerto Rican identity (i.e., 93.3% would not renounce Spanish as their language) (Hispania Research Corporation, 1993). The social identity and pride has widespread with national symbols in many day-to-day articles showing messages such as *Mi orgullo* (my pride); *100% Boricua*; *Boricua, hasta en la luna* (*Boricua* even in the Moon) (Martinez-Aviles, 2011).

1.5. Economic wellbeing of Puerto Ricans

Poverty indicators from Puerto Rico surpass even the levels of the poorest states in U.S. mainland. In the U.S. the federal government defined poverty as "three times the income needed by a family to maintain the cheapest nutritionally adequate diet" (Oropesa & Landale, 2000). The government has regulated thresholds, which take into account age and number of family members and food expenses. For instance, in 2014 poverty guidelines for a family of two was $15,730 and $19,790 for a family of three people (U.S. Department of Health and Human Services, 2014). Income of Puerto Ricans born in Puerto Rico is just somewhat higher ($28.000) with multiple family members per household (Reimer, 2006). Data reported in the 90s suggested that 57% of families (and 70% of young people) were living under the federal poverty levels in Puerto Rico (Rivera-Batiz & Santiago, 1996); and 30% of Puerto Rican families (and 48% of young people) had the same situation in mainland

U.S. (Garcia & Montgomery, 1991). The situation has not changed significantly with the years and recent reports showed that nearly 90% of children living in Ponce and 65% of children living in San Juan live under poverty rates of more than 30%. Alarmingly, 100% of children in rural areas (52 out of 72 townships of the island) live in neighborhoods with poverty rates higher than 30% (Annie Casey Foundation, 2013). Moreover, Puerto Ricans in mainland U.S. are also in the lowest rank of income among all the Hispanic subgroups (National research Council, 2006; Reimer, 2006). This socio-economic situation is extremely important since poverty has been associated with childhood mental health problems (Fitzsimons, Goodman, Kelly, & Smith, 2016); higher levels of antisocial behaviors (Eamon & Mulder, 2005); child depression (Mcleod & Shanahan, 1996); lower parental warmth (Kato-Klebanov, Brooks-Gunn, & Uncan, 1994); single-parent family structures (Kennedy & Fitch, 2012); an undermine of cognitive development in children (Schoon, Jones, Cheng, & Maughan, 2012); and a higher risk of reduced access to mental health services (Alegria et al., 2002). Aware of this situation and concerned about deleterious health, educational and psychological outcomes, the government has organized a wide range of public assistant and subsidies that Puerto Ricans perceive.

1.6. Public benefits

Puerto Ricans (and Dominicans) perceive more public benefits than any other Hispanic subgroup with a 41% of households receiving benefits from: welfare, Supplementary Security Income (SSI), food stamps or Medicare (Reimer, 2006). Moreover, although lack of health insurance is major problem among Hispanic population, Puerto Ricans are the least likely Hispanic subgroup to be uninsured (Hoffman & Pohl, 2000) due to greater support on public aid and Medicaid coverage (Giachello, 1994). In 1996, 34% of Puerto Ricans attained Medicaid or other public

assistance coverage. Moreover, there are other factors related to these percentages: 1) There are a large number of poor Puerto Rican families headed by women (i.e., more likely to be Medicaid eligible); 2) a great percentage of Puerto Ricans live in New York, a state where Medicaid eligibility rules are less restrictive than other States (Schur, White, & Berk, 1995). Despite this advantage, the use of health services, preventive care, and hospital care of Puerto Ricans is much lower than White Americans (Guendelman & Wagner, 2000).

1.7. Social context as a risk factor

Having gone through Puerto Rican history (colonization, migration, poor economic wellbeing and acculturation), we can present the view from some authors, who claim that historical traumas (i.e., experiences of exclusion, inequality and oppression manifested under colonialism) of a group may be related to community physical and psychological conditions (Ross, 2004). Puerto Rico is a clear example of a nation marked by change, oppression and its current socio demographic characteristics do not help in making a better scenario. Puerto Rican society has suffered vivid changes during the 20th century, transitioning from an agrarian and rural organization to an industrial an urban society (Canino et al., 1987). This revolution, combined with the fact that more than 60% of Puerto Ricans are strikingly below the poverty level and rates of unemployment are high (Ennis et al., 2011; Oropesa & Landale, 2000), have developed a risky scenario for Puerto Ricans. Therefore, these sociocultural experiences are viewed as risk factors to other difficulties, such as having greater odds of developing substance use problems or psychiatric disorders. The next section will focus on the socio-cultural context as a

risk factor for substance use among Puerto Ricans and Gordon's (1981, 1985) theory aligned with the view just presented.

2. Substance use among Puerto Ricans

2.1. Prohibition in the U.S. and its impact in Puerto Rico

Truman (1995) describes exhaustively Puerto Rico history and the "prohibition" period between 1917 and 1933. Alcohol production and importation were prohibited in the U.S. Although it took some months for the prohibition to arrive to Puerto Rico, in 1917 Puerto Ricans voted for prohibition, before it was made forbidden through a constitutional amendment. Prohibition was seen as a sign of support for American citizenship. In Puerto Rico there wasn't an active "wet" campaign (anti prohibitionists), and the "dry" movement (prohibition supporters) was maintained by politicians, the church and American military. However, prohibition was less successful in Puerto Rico than in the U.S. On one hand, Puerto Rico had such an appropriate climate for growing sugar cane that became a prosperous industry. Therefore, mash for brewing was easily available due to the sugar cane industry, which used molasses for fermentation. Also, it was easy to construct homemade stills. On the other hand, prohibition was not as enforced in Puerto Rico as other places in the U.S. mostly due to environmental factors (i.e., island with multiple ports for trading liquor with proximal island where liquor was not prohibited) and lack of motivation, due to the minimal Puerto Rican prohibition service (only eight agents, four clerks, and a Coast Guard boat). Truman describes that the police force was soon "trained" and "subsidized" by liquor smugglers. Smugglers worked for Puerto Rican rich men, who at the same time could easily deport a police man though his political contacts. There was no motivation to eradicate liquor consumption under these

circumstances. As an example, three years after the prohibition, 10,000 illegal stills were reported in Puerto Rico, and although these stills should have been destroyed, federal agents abolished less than 1,000 stills per year. Therefore, not only prohibition was not successful in Puerto Rico, but it even promoted liquor production and importation more than in the pre-prohibition era. These particular contextual circumstances, integrated within a history of oppression, shaped Puerto Rico as a highly tolerant nation towards alcohol.

2.2. Alcohol use from a cultural ecology perspective

Gordon (1981, 1985) theorizes alcohol use from a *cultural ecology* perspective (a branch of cultural anthropology) which conceptualizes people's actions and their culture as an adaptive response to the changing environment. Therefore, aligned with the ecological perspective of Ross (2004), Gordon proposes the study of alcohol relating to the changes in political, social and religious institutions, which are linked to the manifestation of drinking behaviors (quantity, frequency, speed of drinking and abstinence). Moreover, Gordon suggests that modernization of societies and acculturation have the potential to change alcohol behaviors, where alcohol use is social and pathological, serving to individual objectives rather than shared objectives. Gordon theorizes that an increase in the drinking behavior in the Puerto Rican population may be a response to the stress lived between the pre-migration and post-migration periods and the stress of living in a foreign urban culture: "*Puerto Ricans showed drinking behaviors relating an amalgam of native drinking practices, U.S. practices and certain features of their own special migrant experience, all what makes Puerto Rican drinking behavior highly deviant within the context of the large Hispanic community*" (Vélez-Blasini, 1997, in Gordon, 1981, p. 233). As reported,

Puerto Ricans have traditionally shown higher rates of alcohol use than other Hispanics.

2.3. Alcohol use prevalence among Puerto Ricans

Alcohol use and abuse is a major concern and a social and health problem in some U.S. Hispanic population. Importantly, Puerto Ricans living in mainland U.S have one of the highest rates of problematic drinking (i.e., binge drinking and alcohol use disorder) compared with other Hispanic subgroups living in the U.S. (Caetano, Ramisetty-Mikler, & Rodriguez, 2008; Ramisetty-Mikler, Caetano, & Rodriguez, 2010; Ríos-Bedoya & Freile-salinas, 2014).

As Gordon (1989, 1993) describes, cirrhosis was the second death cause among Puerto Rican immigrants (for those aged between 15-44 years old) in New York City at the beginning of the 80's; and the third death cause the previous decade. The same pattern of alcohol use seemed to happen in Puerto Rico (Canino, Bird, et al., 1993) and cirrhosis was also the third major death cause (for those aged between 35-64 years old). Thus, alcohol use contributed to the death rates from cirrhosis and chronic liver disease among Hispanic (Caetano & Galvan, 2001; Vong & Bell, 2004). In fact, some authors identified these alcohol use patterns as the most common mental health disorder among Puerto Rican population at that time (Canino, Bird, et al., 1993).

A study on the prevalence and correlates of DSM-IV substance use disorders in Puerto Rico (N=4,709; ages=15-64) (Colon, Robles, Canino, & Shahai, 2002), reported a lifetime alcohol use of 77.2%. A total of 13.1% met criteria for a lifetime alcohol disorder and past year alcohol abuse/dependence was 4.3%. Alcohol use

disorders were associated with: 1) male gender; 2) higher family annual income; 3) being employed; and 4) being married.

Despite the previously presented evidence, there has been a gap of at least 15 years without epidemiological studies and evidence on alcohol and drug use rates and related consequences for Puerto Ricans (Canino et al., 1987; Rios-Bedoya & Gallo, 2003). Canino and colleagues reported in the late 80s a lifetime prevalence of alcohol abuse/dependence of 24.6% for males and 2.0% for females with a significant increase from 5.6% (18-24 year group) to 17.2% (for the 45-64 year group). However, since then trends may have changed and a recent study has reported on prevalence of drinking, binge drinking in Puerto Rico (N=1,510; ages=18-64) (Caetano, Vaeth, & Canino, 2016). Overall, 3% of women (6% among the 18-29 age group) and 5% of men (9% among the 18-29 age group) reported binge drinking. Among drinkers, 87% of women (91% among the 18-29 age group), and 84% of men (88% among the 18-29 age group) reported exceeding moderate drinking guideline; compared with a 68.5% of mainland U.S. drinkers who exceed moderate drinking (Dawson & Grant, 2011). Higher number of weekly drinks (on average) was associated with 1) male gender; 2) those with more liberal norms; 3) those with positive attitudes about drinking; and 4) those in the 18-29 age group (only compared to those in the 40-49 age group). Among these groups, around 16% of males and 9% of females endorsed more social and health problems as a consequence of their alcohol use. These results are in line with previous literature, suggesting that males consume higher volumes of alcohol (per week). However, unexpected, there was not an association between gender and binge drinking and the occurrence of social and health problems as a consequence.

Summing up, although Puerto Ricans in Puerto Rico exceed their alcohol consumption, the problems associated as a consequence of drinking are lower than in

the U.S. general population and among Puerto Ricans living in mainland U.S. (Caetano, Ramisetty-Mikler, & Rodriguez, 2009; Dawson, Goldstein, Saha, & Grant, 2015; Ramisetty-Mikler et al., 2010; Vaeth, Caetano, & Rodriguez, 2012). These rates are intrinsically related to cultural beliefs, norms and acceptance of the drinking behaviour among Puerto Ricans.

2.4. Cultural beliefs regarding alcohol use among Puerto Ricans

It is key to contemplate that the high prevalence of alcohol use observed among Puerto Ricans may be related to the cultural acceptance of drinking, as alcohol has a direct association with everyday life (i.e., baptisms, religious ceremonies, funerals, weekends) (Canino, Burnam, & Caetano, 1992). Indeed, a cultural difference that had made research difficult in the past was the meaning given to "abstain from drinking". While the accepted term implies that the person does not drink "at all", for some Hispanic communities, the term *persona que no toma* (person who does not drink) was interpreted as a not drinking "regularly" (i.e., person that may occasionally get drunk) (Paine, 1977). Therefore, it was difficult to quantify the quantity of alcohol ingested by Hispanic population due to normative differences.

Cross-cultural comparisons of alcohol expectancies (Vélez-Blasini, 1997) showed that Puerto Rican reported alcohol use due to positive expectancies to three factors after drinking: (1) expectancies of enhanced sexuality (i.e., less nervous about sex, less inhibition, more desire, more sexually risky behaviours); (2) expectations of becoming more socially accepted, assertive, easy to interact in a social setting and more outgoing; (3) expectations of becoming more energetic, relaxed and joyful. Puerto Ricans showed less negative connotations of drinking and a stronger expectation of increased sociability and extraversion after drinking compared to non-

Hispanics. These results are consistent with the Hispanic values that underscore the importance of membership in a group. Moreover, although some negative expectations arouse (i.e., becoming angry, clumsy and uncoordinated) only Puerto Rican women moderated their drinking behaviour taking into account those expectations (Vélez-Blasini, 1997).

2.5. Illicit substance use prevalence among Puerto Ricans

A study on the prevalence and correlates of DSM-IV substance use disorders in Puerto Rico (N=4,709; ages=15-64) (Colon et al., 2002), reported that 10.7% of participants informed ever using illicit drugs. A total of 14.7% met criteria for a lifetime substance disorder (4.9% for a past year disorder), with 4.1% meeting criteria for illicit drug use. Past year abuse/dependence for illicit drugs was 1.3%. Illicit drug use disorders only had an association with younger age and being male. Importantly, among those with a past year disorder, only 13.0% of them reported using services for their disorder. A more recent study reported that Puerto Ricans had 13.8% lifetime prevalence for substance use disorders followed by 11.8%, 9.8% and 6.6% of Mexican, other Hispanic and Cuban subgroups, respectively (Alegria et al., 2008).

A study of psychiatric comorbidity among Puerto Rican substance abusers in Puerto Rico and in mainland U.S. (San Juan: N=121; New Heaven=109; adult participants) (Conway, Swendsen, Dierker, Canino, & Merikangas, 2007), identified that anxiety disorders were the most common comorbid disorder (nearly 50%) and 40% had a lifetime history of an affective disorder at both sites. Moreover, it was more common to have comorbidity with various disorders rather than with only one.

2.6. Alcohol use and substance use prevalence among U.S. adolescents

We have focused in alcohol and substance use among adult Puerto Ricans to bring the big picture of the problem and show the strikingly high rates of consumption among this population. However, adults share household with adolescents and create a culture towards alcohol and substance use that model adolescent behavior. Although lower prevalence's are shown for adolescents, the statistics increase noticeably with age. First we will show statistics for U.S. adolescents and then we will focus on Puerto Rican adolescents.

The 2013 National Survey on Drug Use and Health, Substance Abuse and Mental Health Services Administration, (2013) focused on adolescent alcohol use. The study defined three mutually exclusive categories: 1) Current (past month) use: "at least one drink in the past 30 days"; 2) Binge use: "Five or more drinks on the same occasion on each of 5 or more days in the past 30 days". Results reported that the rate of current alcohol use among adolescents (aged 12-17 yr.) was 11.6% (see Figure 2), with rates of current alcohol use of 2.1% (aged 12-13 yr.), 9.5% (aged 14-15 yr.), and 22.7% (aged 16-17 yr.). Adolescent binge alcohol use rates were 6.2%, with 0.8% (12-13 yr.), 4.5% (14-15 yr.), and 13.1% (16-17 yr.). Finally, heavy drinking rates were 1.2%, with 0.1% (12-13 yr), 0.7% (14-15 yr.), and 2.7% (16-17 yr.). Alcohol drinking increases with age until it reaches a peak in young adulthood (around 21-25 years old) and the trend is a slowly decrease. Moreover, there were no significant differences by gender among adolescents (12-17 yr.) in the percentage current drinkers (11.2% for males and 11.9% for females) and rates were lower than those reported in 2012.

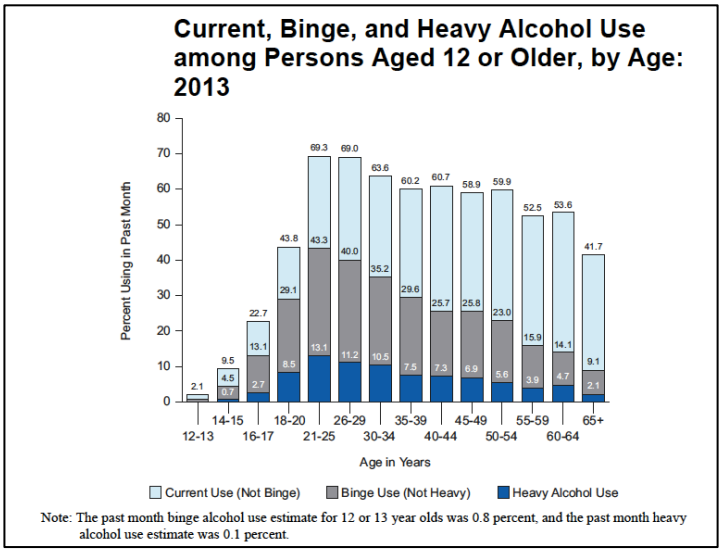

Figure 2. Current, binge, and heavy alcohol use among persons aged 12 or older by age. Source: Substance Abuse and Mental Health Services Administration (2013).

Data of current binge and heavy alcohol use among persons aged 12 or older stratified by race/ethnicity is depicted in Figure 3. More specifically, rates of current alcohol use among adolescents (aged 12-17) were 8.0% among Asians, 8.2% for Native Hawaiians or Other Pacific Islanders, 9.0% for those reporting two or more races, 9.3% for American Indians or Alaska Natives, 9.7% for African American, 10.7% for Hispanic, and 12.9% for White Americans. The rates for Hispanic and White American adolescents were lower than those reported in 2012 (12.8% and 14.6%, respectively). Importantly, among adolescents using alcohol, 13.3% had at least three problems relating their alcohol consumption and 13.7% of adolescents who had alcohol consumption in the last year were also alcohol dependent.

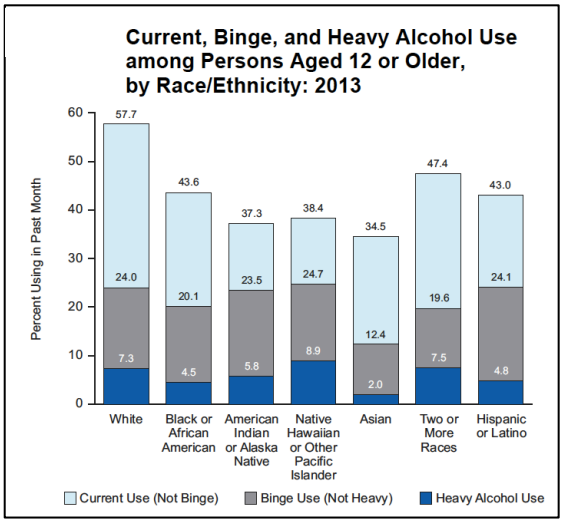

Figure 3. Current, binge and heavy alcohol use among persons aged 12 or older by race/ethnicity: 2013. Source: Substance Abuse and Mental Health Services Administration (2013).

As we mentioned, rates of current alcohol use, and alcohol and illicit drugs abuse and dependence are slightly decreasing within the years. An example of the change from 2002 to 2013 is depicted in Figure 4 and Figure 5.

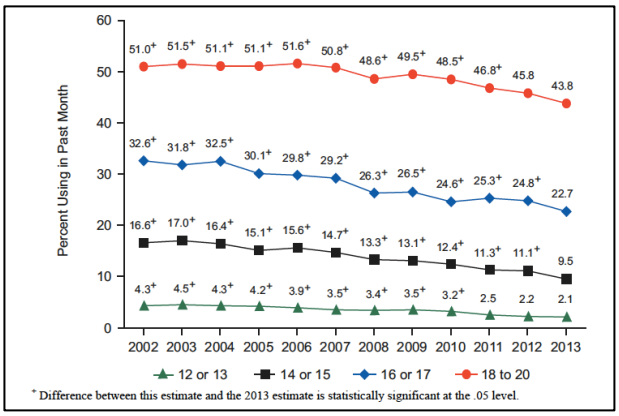

Figure 4. Current alcohol use among persons aged 12 to 20, by age: 2000-2013. Source: Substance Abuse and Mental Health Services Administration (2013).

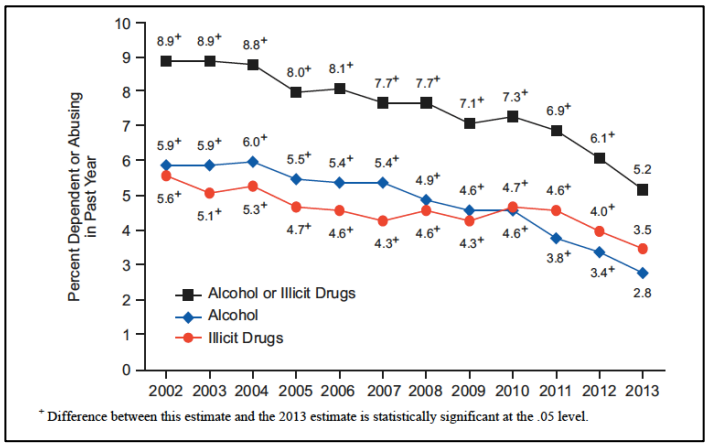

Figure 5. Alcohol and illicit drug dependence and abuse among adolescents (12-17): 2002-2013. Source: Substance Abuse and Mental Health Services Administration (2013).

2.7. Alcohol use and substance use prevalence among Puerto Rican adolescents in Puerto Rico and the U.S.

There is a scarcity of studies on the prevalence of adolescent substance disorders, and those which have ascertained substance use in the general population and community population only included a small sample of Hispanic adolescents, making difficult to generalize results (Bird et al., 1988; Shaffer et al., 1996; Weinberg, Rahdert, Colliver, & Glantz, 1998). Moreover, there is a wide variety in prevalence estimates from different studies.

Data from the Monitoring the Future (MTF) (National Research Council and Institute of Medicine, 2004) reported that 28.5% of youth (aged 12-20) had recently used alcohol. Data was stratified by race/ethnicity focusing on different Hispanic subgroups. White American youth reported the highest past month use of alcohol (30%), followed by American Indians and Alaska natives (28.4%) Mexican Americans (25.2%), and Puerto Ricans, Central and South Americans, and Cubans (22.9%, 22.3%, and 22.3%, respectively).

It has been reported lower rates of substance use among adolescents in the island of Puerto Rico compared to mainland U.S. adolescents from a Puerto Rican

background and other ethnic minorities (Sokol-Katz & Ulbrich, 1992). The lifetime prevalence of substance use has been estimated in 15% among Puerto Rican adolescents in Puerto Rico (eighth to twelve grade) (Moscoso, Parilla, Robles, Colón, & García, 1998).

However, there was a clear gap on the substance use among adolescents literature. Therefore, using data from the National Comorbidity Survey of the US, Warner, Canino, and Colón, (2001) contributed to the field by reporting on estimates of the prevalence of both alcohol and substance use and dependence among Puerto Rican adolescents (N=922, age=15-18) and adolescents in mainland U.S. (N=888, age 15-24). Puerto Rican adolescents reported lower rates of both lifetime alcohol and drug use compared to U.S. adolescents: lifetime alcohol use (31.7% and 38.6%); past year alcohol use (20.8% and 12.9%); lifetime drug use (7.4% and 14.7%); and past year drug use (5.5% and 11.9%) for Puerto Rico and U.S., respectively. There were also differences for the adolescents who transitioned from substance use to abuse or dependence by site (33% of the U.S. adolescent compared to 20% of the Puerto Rican adolescents). In another study, adolescents in Puerto Rico also showed lower rates than those U.S. adolescents who self-identified as Puerto Rican background (Substance Abuse and Mental Health Services Administration, 1998). It seemed the action mechanisms were similar for both samples, with the exception of family income, as low family income was only related to substance use in the U.S. sample and not in the Puerto Rico Sample. Although findings showed differences in onset of substance use rates, lifetime rates of substance abuse and dependence were comparable among both groups (Warner et al., 2001).

Patterns of use across different studies describe a decrease in the use within the first years after initial consumption (DeWit, Offord, & Wong, 1997; Muza,

Bettiol, Muccillo, & Barbieri, 1997; Warner et al., 2001). Gender differences have arisen in literature with young females having nearly half probability of having a substance use disorder than males. However, gender differences seem ever more pronounced for Hispanic youth, where young Latina women display even lower use rates (Hughes, Day, Marcantonio, & Torpy, 1997). Importantly, it seems there is an association between alcohol dependence and low socio-economic status (Velez & Ungemack, 1995; Warheit, Vega, Khoury, Gil, & Elfenbein, 1996). However, Warner et al. (2001) only found an association between low income and higher risk for substance disorder among adolescents in the U.S.

3. The immigrant paradox among Puerto Ricans

We have described a high prevalence of alcohol use and substance use disorders among Puerto Ricans. However, literature usually show lower rates of substance use and internalizing disorders among those Hispanic who migrated to the U.S. compared to both non-Hispanic White and U.S. born Hispanic population (Alegría et al., 2008). Why do we observe this discrepancy? The expectation would be that new immigrants would fare worse off than White Americans due to their lower socio-economic status, less social support from family and community members, difficulties with the new language, and stressful experiences related to immigration, foreign nativity appears protective of psychiatric disorders (Burnam, Hough, Karno, Escobar, & Telles, 1987). This well-established phenomenon has being denominated the *immigrant paradox*, also known as the *healthy immigrant effect* within the field of medicine and health (Flores & Brotanek, 2005). The paradox conceptualizes how less acculturated immigrant groups demonstrate better behavioral, and health outcomes (and their children better academic outcomes) than their

counterparts in the country of origin or those counterparts more acculturated in the hosting country (Garcia Coll & Marks, 2012). Studies usually confirmed that second generation adolescents have worse psychosocial adjustment (especially on externalizing symptoms) than first generation adolescents immigrants (Bui, 2012; Peña et al., 2008).

Although Hispanics compared to non-Hispanics Whites had lower risk of lifetime internalizing and substance use disorders, as reported by the National Comorbidity Survey-Replication (NCS-R) (Kessler & Merikangas, 2004), the sample was not disaggregated by Hispanic subgroup. To fill this gap in the literature, a study using data from the National Survey on Alcohol and Related Conditions (NESARC) (Alegria, Canino, Stinson, & Grant, 2006) found that ethnic subgroups differed in the rates of psychiatric disorders. Puerto Rican had the highest rates in all psychiatric disorders compared with other Hispanic subgroups (i.e., Mexican-American background) and similar rates compared to non-Hispanic whites. In fact, the immigrant paradox hypothesis may not be applicable to Puerto Ricans. There were no differences in lifetime prevalence rates (for mood, anxiety and mood disorders) between U.S. born Puerto Ricans and first generation immigrants (Alegría et al., 2008). Therefore, in the next section we will describe prevalence of psychiatric disorders among Puerto Rican population.

3.1. Mental health disorders among Puerto Ricans

As we exposed, Puerto Ricans display different migratory patterns and outcomes when exposed to the U.S. culture compared to other Hispanic groups. In contrast to other Hispanic groups who have lower rates of psychiatric disorders, Puerto Rican lifetime prevalence are resembling to those of non-Hispanic whites

(Alegría et al., 2008) and most psychiatric disorders have higher prevalence rates in the U.S. than anywhere in the world (Kessler et al., 2003). Therefore, Puerto Ricans are an acutely vulnerable group for mental health problems. Because Puerto Ricans have shared and have been in contact with the U.S. culture for over a hundred years, they may have embraced many cultural norms, values and lifestyle patterns.

3.1.1. Lifetime prevalence of psychiatric disorders among Puerto Ricans

As we previously described, Puerto Ricans (both in Puerto Rico and in mainland U.S.) had the highest rates for any lifetime disorder and differences in rates were statistically significant compared to other Hispanic subgroups (Canino et al., 1987). One of the major concerns in early stages of the study of the epidemiology of disorders among Puerto Ricans was if they actually present higher rates of psychopathology or they simply reported more symptoms. Methodology was not strict and there was a lack of well-established diagnostic measures validated in Hispanic and Puerto Rican populations. However, Canino and colleagues studied the prevalence of diagnostic psychiatric disorders in the late 80s (N=1,513; ages=18-64) with valid measures based in the DSM-III criteria. Rates of lifetime disorders for Puerto Ricans were 28% (34% for males and 22.8% for females). Among these, the most prevalent disorders were anxiety disorders with a lifetime prevalence of 11.2 % for males and 15.7% for females and alcohol abuse/dependence (substance use will be described in the following section). Lifetime prevalence of affective disorders was 4.7% for males and 10.9% for females. In general, all of the lifetime diagnoses tended to increase with age, with anxiety disorders showing a significant increase. Finally, prevalence rates decreased within more educated cohorts. Summing up, Canino and colleagues concluded that the lifetime prevalence of psychiatric disorders observed

were similar to those observed in other communities, although they suggested the possibility that Puerto Ricans may tend to over-report symptoms when using less structured measures (Canino et al., 1987).

Nevertheless, a more recent study with representative probability samples combined data from the National Hispanic and Asian American Study (N=2,554 Hispanics) and the National Comorbidity Survey Replication (N=9,282 non-Hispanics) (Alegria et al., 2008). Rates of lifetime disorders for Puerto Ricans were 37% compared to the 29.5%, 28.2% and 27.0% of Mexican, Cubans and other Hispanics respectively. Rates of lifetime anxiety for Puerto Ricans were 21.7% compared to 15.5%, 14.4% and 14.1% of Mexican, Cuban and other Hispanics subgroups, respectively. However, there were no significant differences in rates of depression among different Hispanic subgroups.

Due to the high rates of psychiatric disorders presented in the Puerto Rican adult population, it is important to focus at early stages of the course of disorders in order to prevent increasing rates, comorbidities and the functional impairment associated with mental ill health. The following section will describe the available data regarding psychiatric disorders among Puerto Rican children and adolescents. First, prevalence of psychiatric disorders among U.S adolescents (where Puerto Rican are included) will be depicted in order to compare both groups.

3.2. Lifetime prevalence of psychiatric disorders among U.S. adolescents

Briefly, a study with data from the longitudinal Great Smoky Mountain Study (GSMS) (N=1,071, ages=9-13 yr.) (Costello et al., 1996), reported on the prevalence and development of psychiatric disorders in childhood and adolescence (Costello, Mustillo, Erkanli, Keeler, & Angold, 2003). Results showed a 3-month prevalence of

13.3% for any disorder, although 36.7% of participants had at least one psychiatric disorder during the study period (6.8% for serious emotional disturbance; 7.0% for any behavioral disorder: 2.7% for conduct disorders; 2.7% for oppositional defiant disorder; 0.9% for ADHD; 2.4% for substance use disorders; 2.4% for any anxiety disorder; and 2.2% for any depressive disorder). The majority of disorders increased their prevalence with age (i.e., depression, social anxiety, panic disorder, and substance abuse). Others decreased their prevalence (i.e., ADHD, separation anxiety disorder). Importantly, those children with mental health history increased in 3 times their probabilities to have a diagnosis in the following waves compared to those without a disorder. Authors conclude that contrary to what point estimates show, there are much higher probabilities of having a psychiatric disorder by age 16 compared to other ages.

Moreover, results from the National Comorbidity Survey Adolescent Supplement (NCS-A) (Kessler et al., 2007; Kessler et al., 2009; Kessler et al., 2009; Merikangas, Avenevoli, Costello, Koretz, & Kessler, 2009), reported on lifetime prevalence of mental disorders in U.S. adolescents (Merikangas et al., 2010). This is a face-to-face nationally representative survey among U.S. adolescents (13-17) (N=10,148). Result from the survey showed that anxiety disorders were the most usual disorder (31.9%), followed by behavior disorders (19.1%), mood disorders (14.3%), and substance use disorders (11.4%). Among those with one class of disorder, nearly 40% also met criteria for another class of lifetime disorder. Figure 6 compiles this information.

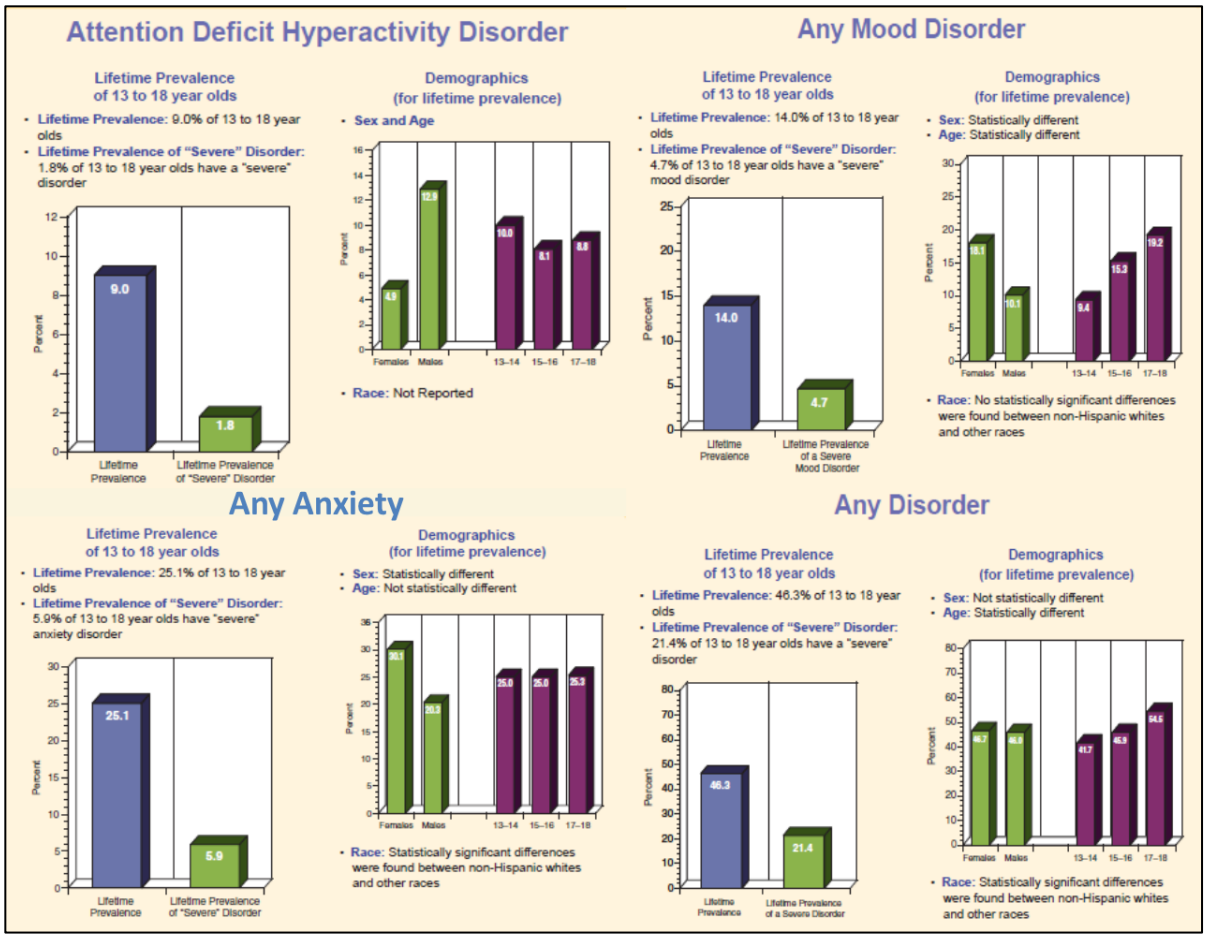

Figure 6. Lifetime prevalence and main demographics for attention deficit hyperactivity disorder, any mood disorder, any anxiety and any disorder. Source: National Institute of Mental Health. From (Merikangas et al., 2010).

Figure 7 depicts the 12-month prevalence for children (8-15 years). The total prevalence of disorders with severe impairment and distress was 22.2% (11.2% for mood disorders; 8.3% for anxiety disorders; 9.6% for behavior disorders). Age of onset for disorder classes (median) was 6 years for anxiety, followed by 11 years for behavior, 13 years for mood, and 15 years for substance use disorders.

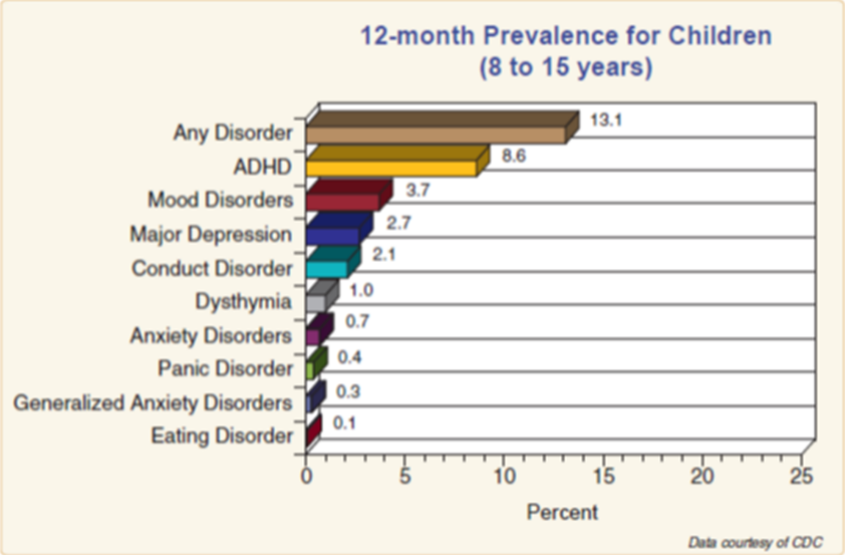

Figure 7. Twelve-month prevalence for children (8-15 years). Source: National Institute of Mental Health. From Merikangas et al. (2010).

The results previously presented come from the replication of the best representative population survey of child and adolescent psychiatric disorders in the U.S. (Merikangas et al., 2010). Analysis of this study, together with the Great Smoky Mountain Study (GSMS) (Costello et al., 1996) and the British National Survey (5-15 years old) (Meltzer, Gatward, Goodman, & Ford, 2003) leads to the conclusion that at given moment, 20% of child will have a psychiatric disorder. These results mean that previous cross-sectional studies, which showed lower prevalence, tended to underestimate the magnitude of mental health problems among young population. Psychiatric disorders are even more prevalent as children grow older. Although a great majority of child and adolescent diagnosed with a psychiatric disorder achieve symptom remission after treatment (i.e., between 30% to 60% rate of remission for depression (Kennard et al., 2009); 40% to 68% rate of remission for anxiety disorders (Ginsburg et al., 2012)), 30% of adolescents with mood disorders (Scott et al., 2014) and with anxiety disorders (Cartwright-Hatton, Roberts, Chitsabesan, Fothergill, & Harrington, 2004), do not have a favorable response rate, experience poor functional recovery and remain socially isolated. Therefore, due to the high prevalence of

psychiatric disorders among children and adolescents and the impairment associated to mental ill health conditions, is important to understand possible protective factors and apply early intervention to reduce these rates. However, first we will review prevalence of psychiatric disorders among Puerto Rican adolescents to better understand the unique patterns of this Hispanic group.

3.2.1. Lifetime prevalence of psychiatric disorders among Puerto Rican adolescents

There is a scarcity of child- adolescent-specific studies among Puerto Rican population. Besides the Boricua Youth Study (Bird et al., 2006; Bird et al., 2006) – from which we are presenting the data of this dissertation – available evidence dates from more than 10 years ago.

An epidemiologic survey with a probability sample and face-to-face interviews was undertaken in Puerto Rico (N=1,886; ages=4-17 yr.) (Canino et al., 2004). Last-year prevalence rates of DSM-IV/DISC-IV diagnoses were reported showing rates of 3.4% for any depressive disorder, 6.9% for any anxiety disorder, 11.1% for ADHD and 5.5% for oppositional defiant disorders. When a measure of diagnosis-specific impairment was considered, prevalence decreased somewhat. However, when a global impairment measure was considered, prevalence was reduced in nearly half. Nevertheless, results reported were comparable to those found in other community samples.

Other reports also mention that Puerto Rican children have higher rates of developmental problems (i.e., 11% for chronic developmental conditions; 20% of developmental problems; and 13% for functional limitations) when employing parental report (Arcia, Keyes, & Gallagher, 1994).

In general, it seems that Puerto Rican children in Puerto Rico and in mainland U.S. show minimal differences in psychiatric disorders, with the exception of conduct disorder rates, lower among Puerto Rican children and adolescents in Puerto Rico (Bird, Canino, Rubio-Stipec, & Ribera, 1987; Bird et al., 2001). This difference may be related to better social support and family relations shown in Puerto Rico (Bird et al., 2001). Finally, from the data presented prevalence rates for Puerto Rican adolescents seem lower for internalizing disorders and higher for externalizing disorders that the rates of their counterparts U.S. adolescents. However, the Puerto Rican study included children (4-17 years) in their sample, while the National sample study only included adolescents (13-17), therefore results are not comparable.

Despite the fact that children and adolescents have mental health problems and these increase with age, mental health services and consultation for related problems is low. In the following section service use will be covered and reasons for the low use will be described (i.e., barriers Hispanic population may encounter).

3.3. Mental health services use

3.3.1. Mental health services use among adolescents

As we have described, rates of child and adolescent psychiatric disorders are considerably high, however, data from the Centers for Disease Control and Prevention's National Health and Nutrition Examination Survey (NHANES) (Merikangas et al., 2010) show that only 50.6% of children with mental disorders had received treatment for their disorder within the past year. Among those, children with anxiety disorders were the least likely (32.2%) to have received treatment in the past year. Boys were 50% more likely than girls to use mental health services. Moreover, adolescents between 12–15 year olds were 90% more likely than

those between 8–11 year olds to use mental health services. In this study no differences were found between race/ethnicity for anxiety, mood, or conduct disorders. However, for ADHD, Mexican Americans and other Hispanic adolescents had significantly lower 12-month rates compared to non-Hispanic White adolescents. Figure 8 depicts mental health service use for children (8-15 years).

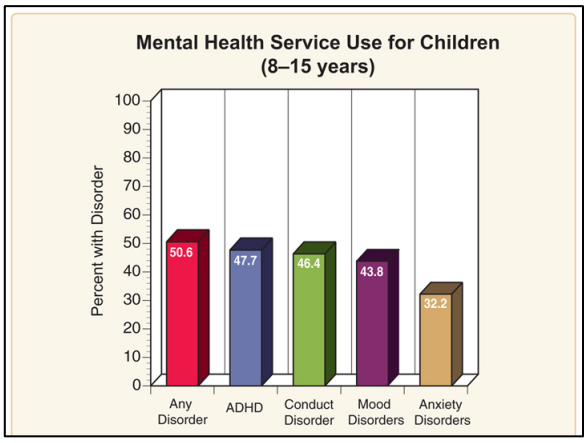

Figure 8. Mental health service use in the U.S. for children (8-15) by type of disorder. Source: Centers for Disease Control and Prevention's National Health and Nutrition Examination Survey (NHANES).

More specifically, data from the National Comorbidity Survey-Adolescent about services for adolescents with psychiatric disorders (N=10,148; ages=13-17) (Costello, He, Sampson, Kessler, & Merikangas, 2014), showed that 45% of adolescents with psychiatric disorders received some form of care in the past 12 months. Adolescents were more likely to receive services if they had being diagnosed with ADHD (73.8%), conduct disorder (73.4%), or oppositional defiant disorder (71.0%), followed by those with specific phobias (40.7%) and any anxiety disorder (41.4%). Services were provided usually in school setting (23.6%) or in a specialty mental health setting (22.8%) compared to the 10.1% of services provided in a general medical setting (Services were also provided in juvenile justice settings (4.5%), alternative medicine services (5.3%), and human services settings (7.9%)).

Again, there were no significant differences in service use for psychiatric disorders for Hispanic adolescents (14.4% of the sample) compared to non-Hispanic White adolescents.

Nevertheless, other studies show a different scenario for Hispanic youth. Data from community settings report that Hispanic youth seem to be underrepresented in five youth services sectors (i.e., mental health, juvenile justice, substance use and alcohol treatment, child welfare and public school services) even after controlling for socioeconomic status (McCabe et al., 1999). Also, Hispanic adolescents with mental health disorders face a noteworthy disproportion in access to mental health services compared to other youth in public sectors of care (Hough et al., 2002). Specifically, The Methods for Epidemiology of Child and Adolescent Mental Disorders (MECA) (Flisher et al., 1997; Lahey et al., 1996; National Research Council, 1993), identified that Puerto Rican youth were significantly less likely to receive mental health services either in medical settings of at school. Hispanics may have more difficulties to receive care due to their particular socio-economic and migratory situation.

3.3.2. Barriers for mental health services use among Hispanic population

It may be that indeed, Hispanic population is less likely to use mental health services than their white Americans or African American counterparts (Jiménez, Alegría, Peña, & Vera, 1997; Kouyoumdjian, Zamboanga, & Hansen, 2003; Padgett, Patrick, Burns, & Schlesinger, 1994; Perez, 2014; Woodwards, Divinell, & Arons, 1992). However, what may not be as clear, are the reasons for this to happen. Perez (2014) describes specific barriers that Hispanic encounter when seeking for mental health services: (1) accessibility: relating to location (rural vs. urban areas), transportation, costs, lack of knowledge of available services and low mental health services outreaching the Hispanic population (Barrio et al., 2008; García, Gilchrist,

Vazquez, Leite, & Raymond, 2011; Gudiño, Lau, & Hough, 2008); (2) language: which is the key to engagement. Whilst 40% of Hispanic in the U.S. is proficient in English, only 1% of mental health specialists speak Spanish (Bridges et al., 2012). As a consequence, the limited available bilingual therapists may increase wrong diagnosis and poor match with existing services (Alegria, Mulvaney-Day, et al., 2007); (3) culture: Hispanic understanding of mental illness is influenced by cultural norms and beliefs that may differ from those of their therapist (usually using therapy models with a White American population as the reference). Moreover, Hispanic tend to rely on their community and family members as a preferred coping approach for mental health related problems (Rastogi & Massey-Hastings, 2012); (4) stigma of the mental illness itself and cultural norms in Hispanic community (i.e., being quiet, isolation and withdrawn is a positive attribute), may as a consequence make some people neglect possible diagnosis (i.e., depressive symptoms or negative symptoms associated with psychosis) (Leal, 2005); (5) discrimination: contributed by the anti-immigrant attitudes within society and some service providers, who may struggle with traditional Hispanic values. Moreover, policies usually have been created in a way that Hispanic people have more difficulties to access proper mental health services (especially those undocumented Hispanics); and (6) immigration and acculturation. Finally, other barriers for receiving specifically substance use services, reported by the Substance Abuse and Mental Health Services Administration, (2013) are depicted in Figure 9.

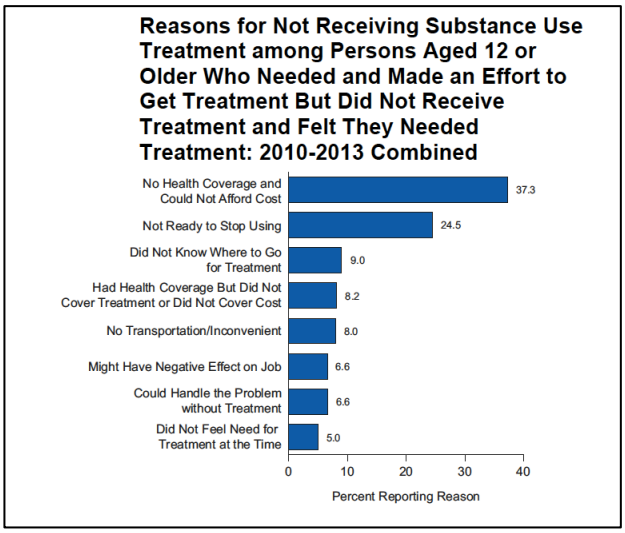

Figure 9. Reasons for not receiving substance use treatment. Source: Substance Abuse and Mental Health Services Administration (2013).

One of the most remarkable phenomena that may explain the low mental health service use is the fact that Hispanic relies in the community, friends and family members as a preferred coping approach for mental health related problems. This fact leads to the value Hispanic and Puerto Ricans give to family. In the following section we will describe shared family values among different Hispanic groups and how the unique socio-cultural experiences Puerto Ricans have lived through history may shape family arrangements and parenting practices.

4. The Puerto Rican family

4.1. Historical background

Consensual unions (i.e., live with a couple without marriage or cohabitation) are a distinctive part of the familial arrangements and nuptiality patterns in the Caribbean (Camisa, 1978). Although cohabitation may serve as a trial period preceding marriage in developed countries, consensual unions in Latin America have described as substitute of marriage and are the legacy of a historical convention. The fact that an official ceremony or a legal contract is absent does not reduce social

recognition or childbearing (Castro-Martin, 2002). Consensual unions started during the Spanish colonialism as a parallel system to marriage. There were strict colonizer-imposed endogamy codes and unions between male Spanish colonizers and local women as well as among Taíno and mestizo couples were prohibited (Castro-Martin, 2002). Male settlers outnumbered women and they found in the *amancebamiento* (cohabitation) the permitted way of having sexual unions with local women (McCaa, 1994). Marriage was only needed between Spanish elite; they own properties and the intergenerational transmission of goods was only assured by formal unions (Folbre, 1991). Therefore, mutual consent unions were the norm among the rest of the population (mestizo population). Other couples could not afford a marriage and therefore lived in a consensual union, since during the colonial period marriage marriages were extremely elaborate and costly. Thus, between 30% and 50% of childbirth occurred out of wedlock (Castro-Martin, 2002). In general, in Latin America cohabitation is more prevalent among those with less education and lower socioeconomic status, suggesting that economic costs may discourage marriage (Castro Martin, 2002).

Regardless of the effort of the Catholic Church and the State to impose the formal catholic marriage model, the ethnically and culturally mixed society prevented the success of the model. Moreover, rural areas, far away from the influence of the authorities, did not suffered as much sanctions as populated areas (Pescador, 1988). Therefore, back in time, the Puerto Rican living arrangements seemed to differ from that of White Americans. However, in the past few decades, family arrangements in the U.S. have changed dramatically.

4.2. Family arrangements among U.S families with children

As we can see from Figure 10, living arrangements among U.S. population have changed significantly since the 60s (Pew Research Center, 2015). There has been a decrease of two married parents and an increase in single-parents and cohabitating couples. If we look at the same data by race/ethnic category (Figure 11), Hispanic families are the second culture with more single parent families (29%) and also the second culture with less parents in first marriage (43%) compared with African-America, White Americans and Asian Americans. Importantly, nearly half of the parents with less than highschool education were single-parents (46%), and the majority of parents with a college degree were married in first marriage (71%).

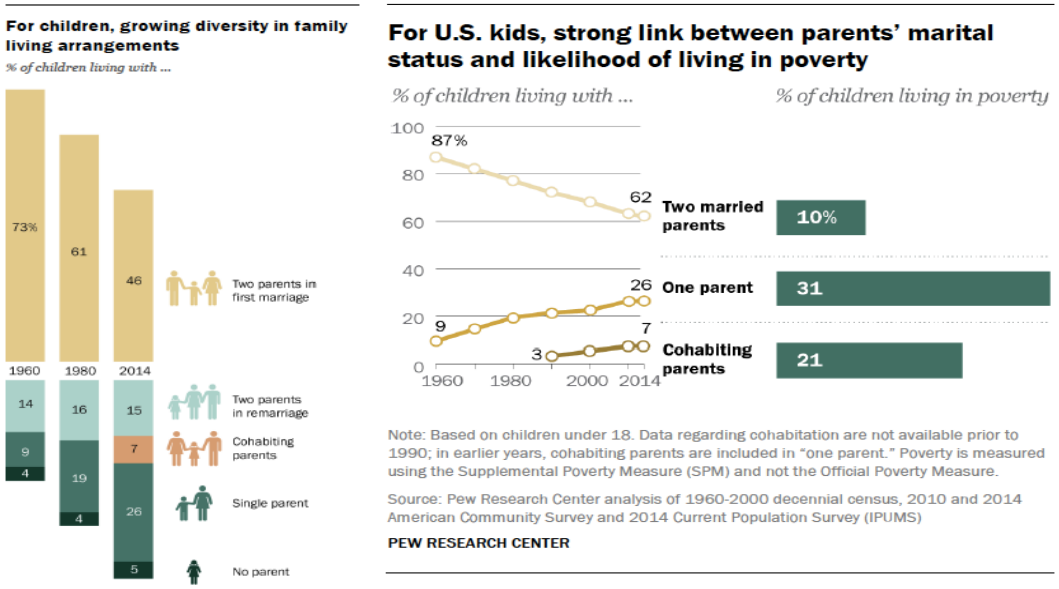

Figure 10. Living arrangements trajectories of families with children from 1960-2014. Source: Pew Research Center (2015).

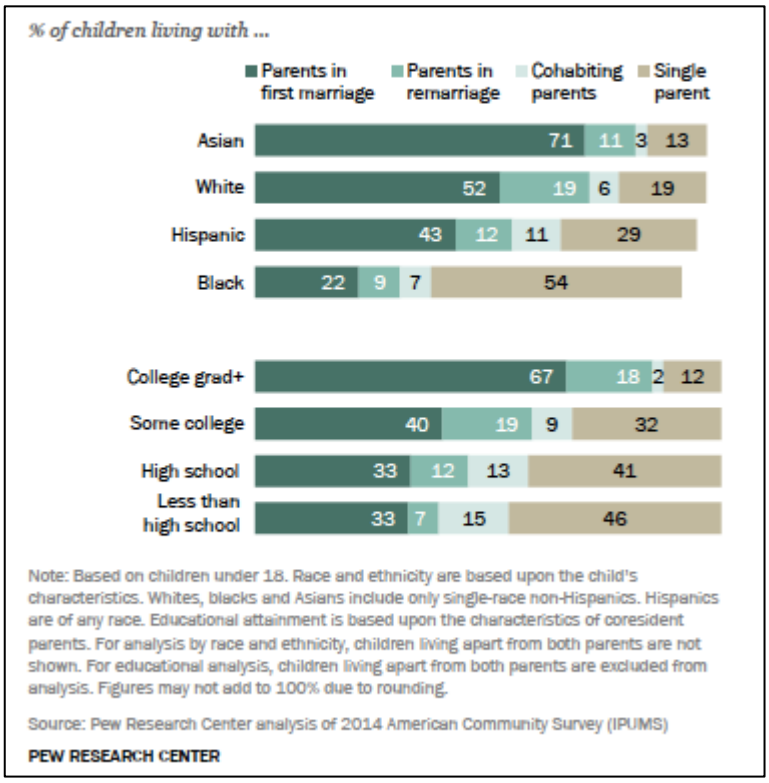

Figure 11. Living arrangements of U.S. children by race/ethnicity and parental education level. Source: Pew Research Center (2015).

Although different family arrangements (or family structures), such as cohabiting parents, are presented in the previous paragraphs, this data has not always been available because it was not a prominent family structure. Indeed, early reports on the field of marriage included non-differentiated family structures to denominate "single-parent" (i.e., single parents and also cohabiting parents who never married) without taking into account the nature of relationships of the adults in the household (Manning & Lichter, 1996). Therefore, the America's families and living arrangements 2012 from the Census Bureau (Vespa, Lewis, & Kreider, 2013), specifies on their latest report the definition of different family arrangements: "*This report uses the terms unmarried partner, cohabiting partner, and cohabiter interchangeably. Since 1995 and in the historical tables since 1996, a category of relationship to the householder has been available from the Current Population Survey for use in the measurement of cohabitation. This category allows respondents*

to identify an individual in the household as the "unmarried partner" of the householder. Beginning in 2007, a question was also asked of adults who lived with adult nonrelatives to find out if they had a boyfriend, girlfriend, or partner living in the household. In the ACS, a relationship category for unmarried partner has been available since its inception in 2005."

Figure 12 depicts data of household changes by type from 1970 to 2012 by the U.S. Census Bureau (Vespa et al., 2013), where it is noticeable the significant decrease of married couples with children (nearly 20%) since the 70's.

Figure 13 shows family groups by race/ethnicity and Hispanic origin of reference person in 2012 by the US Census Bureau (Vespa et al., 2013). Cohabitation is referred as "unmarried parent couple" and single-parent is referred as "mother/father only with children under 18". Although percentages differ depending on the source of information, more Hispanic families were cohabiting (4.7%) and were single-mothers (14.0%) compared to White Americans (1.6% and 8%,

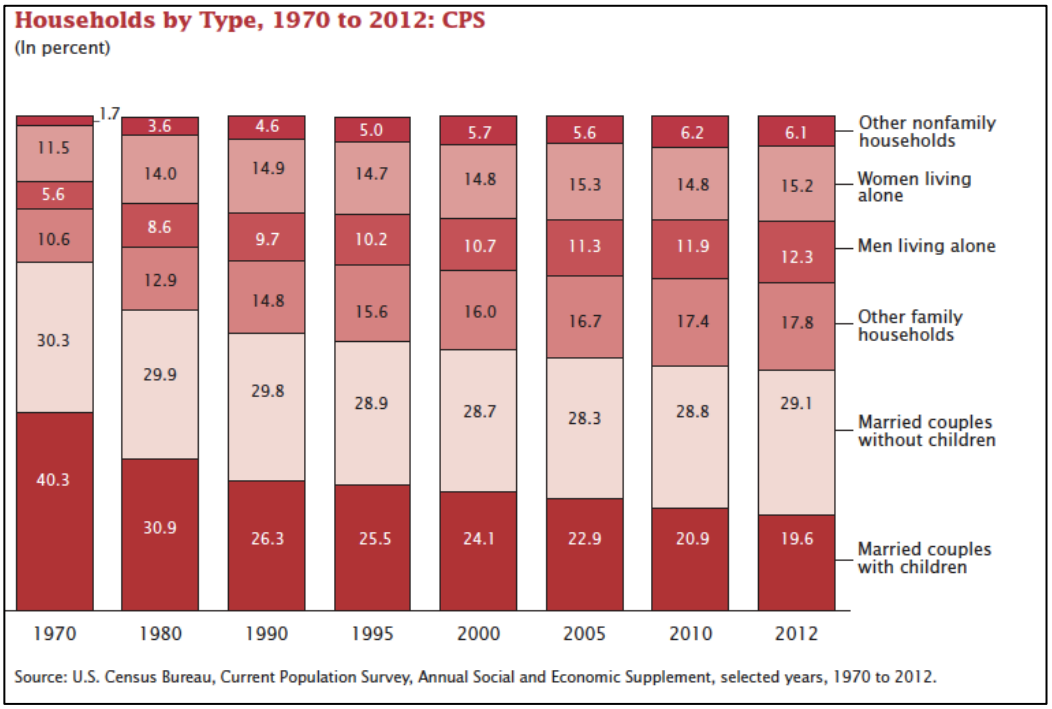

Figure 12. Household by type, 1970-2012 (*Note:* this data include families with and without children) Source: US Census Bureau (Vespa et al., 2013).

Family Groups by Race and Hispanic Origin of Reference Person: CPS 2012
(Numbers in thousands)

Type of family group	Total	Race of family reference person				
		White alone	White alone, non-Hispanic	Black alone	Asian alone	Hispanic (any race)
Number	**85,463**	**68,080**	**56,299**	**10,459**	**4,621**	**13,046**
Married couple	61,047	51,545	44,264	4,521	3,666	7,889
With children under 18[1]	24,445	20,035	15,760	1,961	1,779	4,655
Without children under 18	36,602	31,510	28,505	2,560	1,888	3,234
Unmarried parent couple[2]	1,859	1,402	881	301	66	609
Mother only with children under 18[3]	10,322	6,566	4,521	3,035	265	2,381
Father only with children under 18[3]	1,956	1,489	1,185	324	56	345
Householder and other relative(s)[4]	10,277	7,078	5,448	2,279	568	1,822
Grandparent householder with grandchildren under 18	1,249	791	590	376	33	222
Householder with adult children	5,747	4,067	3,406	1,337	193	734
Householder with young adult children aged 18 to 24	2,371	1,607	1,294	615	71	361
Householder with parent	2,420	1,613	1,022	459	238	664
Percent	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Married couple	71.4	75.7	78.6	43.2	79.3	60.5
With children under 18[1]	28.6	29.4	28.0	18.7	38.5	35.7
Without children under 18	42.8	46.3	50.6	24.5	40.9	24.8
Unmarried parent couple[2]	2.2	2.1	1.6	2.9	1.4	4.7
Mother only with children under 18[3]	12.1	9.6	8.0	29.0	5.7	18.3
Father only with children under 18[3]	2.3	2.2	2.1	3.1	1.2	2.6
Householder and other relative(s)[4]	12.0	10.4	9.7	21.8	12.3	14.0
Grandparent householder with grandchildren under 18	1.5	1.2	1.0	3.6	0.7	1.7
Householder with adult children	6.7	6.0	6.0	12.8	4.2	5.6
Householder with young adult children aged 18 to 24	2.8	2.4	2.3	5.9	1.5	2.8
Householder with parent	2.8	2.4	1.8	4.4	5.2	5.1

[1] Excludes ever-married children under 18 years.
[2] Includes unmarried opposite-sex couples who have at least one joint never-married child under 18 years.
[3] Parent may have a cohabiting partner, but none of his or her children are also identified as the child of his or her cohabiting partner.
[4] Subcategories of "householder and other relative(s)" are not mutually exclusive.
Source: U.S. Census Bureau, Current Population Survey, Annual Social and Economic Supplement, 2012.

Figure 13. Family groups by race/ethnicity and Hispanic origin of reference person: 2012. (*Note*: This data includes arrangements with and without children). Source: US Census Bureau (Vespa et al., 2013).

respectively). Noticeable, 14% of Hispanic households were living with extended family (compared with 9.7% of White Americans). Nevertheless, Figure 13 represents family arrangements among Hispanic families in general, and Puerto Rican context may vary significantly given previous evidence provided. Since single-parent and cohabitation structures, from a historical perspective seems an important type of family structure specially for Puerto Rican, we will use the following section to define and provide some evidence regarding these structures.

4.3. Family arrangements among Puerto Rican families

There is an important variation in the household composition by Hispanic subgroup. While 75% of Mexican and 69% of Cuban households are more likely to be

headed by a married couple, the opposite represents Puerto Rican households. Only 53% of Puerto Rican households are headed by a married couple and 34% are female headed (with no spouse or couple) compared with the 16% and 18% of female headed households for Cubans and Mexicans (Landale, Oropesa, & Bradatan, 2006). Although Hispanic women have more probabilities to be married at a young age (20-24 year old) than non-Hispanic women, Puerto Rican women (and Cuban women) are an exception (Landale et al., 2006). In fact, percentages of children living in a mother-only family are higher for Puerto Ricans (46%) and non-Hispanic Black children (49%) compared to other Hispanic subgroups (Landale et al., 2006).

Although prevalent among Puerto Rican families, consensual unions (cohabitation) are not a homogeneous category and there have been identified different couple situations within the cohabitation context: (1) cohabitation as an alternative to singlehood (Jelin, 1992); (2) a way to leave the status of single motherhood; (3) a prelude to marriage (postponed due to economic difficulties); (4) a setting for a relationship with a previously married partner; (5) an alternative to marriage (due to legal constraints). It seems that the subjective meaning Puerto Ricans gave to cohabitation was as an "informal marriage" (Landale & Fennelly, 1992). Therefore, Puerto Ricans may see consensual unions as an alternative of marriage.

Nevertheless, Puerto Rican families have also high rates of single-parent families, with 44% of Puerto Rican families headed by women (Ginorio, Gutierrez, Cauce, & Acosta, 1995). However literature has sometimes described Puerto Ricans as reflecting other Hispanic values such as the patriarchal family and the husband role as protector and provider (Inclan & Erron, 1990) without taking into account Puerto Rican family arrangements (Arbor, 2000).

However, relying on an indicator or family structure (i.e., single-parent or two-parent family) at a single point in time has considerable limitations. Family structure is not static. For instance, when studying a step-parent family, there are a number of ways the step- parent family may have been formed; it could be that a single-parent started a relationship, or a married couple divorced and one of the parental figures starts a new relationship. Thus, to capture the dynamic nature of family structures, it is important to also consider family transitions (i.e., family instability) (Brown, 2006; Fomby & Cherlin, 2007; Schroeder, Osgood, & Oghia, 2010).

4.4. Family transitions and family instability

Prior studies have conceptualized family instability in diverse ways even though all concentrate on parental union transitions (Brown, 2010). Family instability has been considered as: 1) the number of different partnership transitions experienced by the child's mother; 2) the amount of time that a child is exposed to a particular family structure (i.e., single-mother family) (Bulanda & Manning, 2008; Cavanagh, 2008; Magnuson, and Berger, 2009; Ryan, Franzetta, Schelar, & Manlove, 2009); 3) some studies divide family instability by type of parental structure transition (e.g., cohabitation vs. marital) (Brown, 2006; Hao & Xie, 2001); 4) or disaggregate family instability by age at transition (Brauner-Otto & Axinn, 2010; Cavanagh & Huston, 2008; Heard, 2007; Ryan et al., 2009).

Marital transitions (i.e., divorce and remarriage) are stressful for both parents and children. These transitions usually consist of a shift in household membership, a restructuring of family roles with changes in family routines, which could result in inconsistent parenting. Poor parenting can contribute to emotional insecurity among

children and lower quality parent-child relationships and child well-being (Amato, 2000; Cherlin et al., 1991; Coleman, Ganong, & Fine, 2000; Hanson, McLanahan, & Thomson, 1998; Hetherington, Bridges, & Insabella, 1998; Seltzer, 1994; Wu & Martinson, 1993; Wu, 1996). Besides, available resources (i.e., money, housing and time), which are essential to child well-being, can be reduced after family transitions (Hanson et al., 1998). The majority of research has studied the number of family transitions, with the underlying postulate that each additional transition is associated with increased child stress, which may be deleterious for child well-being (Goldberg, 2013).

Importantly, not only Puerto Rican families may differ from White American families in the more prominent family structure (i.e., single parents or cohabiting parents compared to two married parents) and changes in and out these structures (family transitions), but both groups may also differ in the main cultural values given to the family. Although Puerto Rican families have their own peculiarities, there are a wide range of family values shared with other Hispanic groups.

4.5. Hispanic family values: Familism

Hispanic culture is characterized by a strong family orientation and familism – a strong identification and attachment of individuals with their families, feelings of loyalty, reciprocity and solidarity among family members – (Cauce & Domenech-Rodriguez, 2002; Sabogal, Marin, Oterosabogal, Marin, & Perezstable, 1987), first described by (Bordis, 1959) has been proposed as a core value of the Hispanic culture (Zinn, 1982). The construct has been validated in different Hispanic populations (i.e., Mexican, Cuban, Colombian, Nicaraguan, Peruvian, Puerto Rican and Dominican Republic backgrounds) (Calzada, Tamis-LeMonda, & Yoshikawa, 2013; Campos,

Ullman, Aguilera, & Dunkel Schetter, 2014; Domenech, Franceschi, Sella, & Félix, 2013; Schwartz, 2007). Familism is a multidimensional construct comprising three dimensions (Valenzuela & Dornbusch, 1994): (1) the *structural dimension*, referring to the spatial boundaries where the attitudes and the behaviours towards family will take place (i.e., presence of nuclear and extended family members). The number of adults residing within the household provides an estimate of this dimension; (2) the *behavioural dimension*, referring to actions related to the feelings and personal attitudes towards family (i.e., number of times family members keep in touch, visit each other, make phone calls, etc.); and (3) the *attitudinal dimension*, referring to the commitment of family members to family relationships (Valenzuela & Dornbusch, 1994). Lugo-Steidel and Contreras, (2003) further divided attitudinal familism into four factors: a) *familial interconnectedness*, related to the belief that adults should live near their families in order to maintain a physical bond and be part of their everyday lives; b) *subjugation of self for family* referring to the believe that individual needs are secondary to family needs, and therefore, individual activities would be integrated to achieve family goals, where the person is submissive and respects family rules; c) *familial support*, where family members are expected to provide and receive support in reciprocity not only in difficult times but in everyday life; and d) *familial honor*, related to the obligation of family members to maintain, honour and defend the family name (Lugo-Steidel & Contreras, 2003). Lugo-Steidel and Contreras tested these factors in a Hispanic population (87% of respondents were from Puerto Rican descend) in order to develop a measure of attitudinal familism. Findings revealed the scale to be a valid measure of familism.

Another debate on literature is the interrelation of familism and acculturation, as it has been proposed that core values from a culture may get deluded once

becoming a minority in another country. However, a study among a Puerto Rican descent group (Montoro-Rodriguez & Kosloski, 1998), contradicted other studies reporting that acculturation in the U.S. weakens identification with family and family values (Coohey, 2001; Cortes, 1995; Gil, Vega, & Dimas, 1994). Familism and acculturation were positively associated for the dimensions of familial obligations and support from relatives, although they did not find a relationship for the family as referents dimension. Findings also maintain the notion of the multidimensionality of familism as findings may vary in relationship to acculturation depending on the familim factors studied. Same results were found by Lugo-Steidel and Contreras, (2003) suggesting that despite the exposure to U.S. culture, some family values are retained regardless of acculturation.

Familism has been described as a protective factor for mental health problem among Hispanic children, especially among those living under poverty and an acculturated environment as familism facilitate to deal with the stress these situations entitle (Calzada, Tamis-LeMonda, & Yoshikawa, 2012; Gil, Wagner, & Vega, 2000; Rodriguez, Mira, Myers, Morris, & Cardoza, 2003).

Within the context of traditional Hispanic familism there are other cultural assets ascribed to Hispanic culture integrated and consistent with a strong family attachment that have been described in the literature such as *simpatía*, *personalismo*, *respeto*, *marianismo*, and *machismo* that are briefly described below.

4.5.1. Simpatía

The cultural practice of Hispanic families describing the maintenance of harmony in order to stay away from conflict and abstain from controversy has been coined as *simpatía* (although there is no English equivalent a close translation could

be "respectful interaction") (Bermudez, 2008; Griffith, Joe, Chatham, & Simpson, 1998; Marin, 1989; Triandis, Marín, Lisansky, & Betancourt, 1984). *Simpatía* reflects a respectful and smooth behavior toward other people (not only family) while being polite, friendly, likeable, pleasant and showing agreement with others. It also implies a reciprocal relationship, expecting non-conflicting relationships avoiding direct confrontations. Direct expression of opinions contradicting elders is considered offensive, therefore, *simpatía* could be considered contrary to assertive behaviors (Bermudez, 2008).

4.5.2. Personalismo

Personalismo describes a preference for people within the same ethnic group (Marin, 1989), that is, people sharing the same qualities and personal values as the person (i.e., those who demonstrate a concern and interest for others). Therefore, in order to create an interpersonal relationship it needs to be based on trust, respect, shared values and reciprocity (Flores, Eyre, & Millstein, 1998; Gloria & Peregoy, 1996).

4.5.3. Respeto

Respect refers to obeying the parents and elders as an authority figure and respecting their hierarchical position within the family (Lauria, 1982; Marín & Marín, 1991; Santiago-Rivera, Arredondo, & Gallardo-Cooper, 2002; Valdes, 1996). Therefore, some Hispanic children may be less autonomous than White American children because they respect the hierarchy in the family without questioning their elders (Bermudez, 2008). Also, children who place *respeto* as a core value may not question or realize the consistency with which parents use coercive discipline

(Vázquez-García, García-Coll, Erkut, Alarcón, & Tropp, 1999). Moreover, those bonds are usually extended outside the nuclear family (i.e., parents), and include extended family (i.e., grandparents, uncles, cousins) as well as close friends of the family that are considered and treated like family (i.e., *compadre* and *comadre*) and school settings (i.e., teacher or *maestro*), where children are expected to behave (*ser bien educado*) (Borrego, Anhalt, Terao, Vargas, & Urquiza, 2006).

4.5.4. Marianismo

Marianismo refers to a gender-role construct that denotes female submissiveness (Ginorio et al., 1995; Julian, Mckenry, & Mckelvey, 1994; Unger et al., 2002). Historically the name was derived from the Virgin Mary who was strong caregiver and the female referent of humility and self-sacrifice for her children, which are desired and expected qualities among Hispanic women (Gloria & Peregoy, 1996). Although femininity is exalted, sexual feelings on the contrary are discouraged and suppressed (O'Sullivan, Meyer-Bahlburg, & Watkins, 2001).

4.5.5. Machismo

Machismo is a construct that comprises behaviors and attitudes referring to the decision-making and leadership role that is expected for men as head of household (Ginorio et al., 1995; Unger et al., 2002). *Machismo* has two dimensions: (1) positive dimension (i.e., confident, knowledgeable, responsible, generous, courageous, respectful, the one who provides for family members and with honor (Mirande, 1985)); (2) negative dimension (i.e., dominant, aggressive characteristics). This construct and the underneath beliefs have direct effects on Hispanic parenting practices. For instance it has been suggested that parents may be more controlling and

adopt an authoritarian parenting style with adolescent daughters; whilst in contrast parents tend to be more permissive, adopting an authoritative parenting role with adolescent sons.

Nevertheless. related to the high percentage of single-parent families headed by women among Puerto Ricans (Ginorio et al., 1995), reinterpretations of the peculiarities of Puerto Rican family structure have focused in provide an alternative description. This description is against the view of the patriarchal family and the husband role as protector and provider (Inclan & Erron, 1990) among Puerto Ricans. Literature suggest that this specific Hispanic subgroup display a greater variety gender role patterns than the emphasis on *machismo* traditionally describing Hispanic families (Ramirez & Arce, 1981; Williams, 1988; Zavella, 1989).

5. Parenting practices

5.1. Parenting style vs. parenting practices

Research on parenting has focused both on parenting styles and parenting practices, being important to distinguish one from the other. *Parenting style* has been defined as the parental attitudes which comprise beliefs (implicit and explicit beliefs), values and goals in regards to parenting, which create an emotional climate for parent-child interactions (Darling & Steinberg, 1993; Siegler, Deloache, & Eisenberg, 2006). While *parenting practices* refer to the behaviors a parent directs to the child.

Baumrind, (1991a, 1991b, 1996) differentiated two domains of parenting style: 1) *demandingness*, which comprises discipline, monitoring, supervision, establishing limits and expectation of the child; and 2) *responsiveness*, which comprises communication with the child, acceptance, warmth, and respect to the child's needs. Therefore, parenting styles depend on the variation along both

dimensions of demandingness and responsiveness. When combined, four parenting styles are yielded: 1) *authoritative parenting*, (i.e., high in responsiveness and high in demandingness); 2) *authoritarian parenting*, (i.e., high in demandingness); 3) *permissive parenting*, (i.e., high in responsiveness); and 4) *rejecting-neglecting parenting*, (i.e., disengaged parents, without displaying neither responsiveness nor demandingness) (Baumrind, 1991a, 1991b, 1996). Maccoby & Martin, (1983) proposed a similar division, based on the dimensions of control and support, identifying four subtypes of parenting styles: authoritative, authoritarian, indulgent and or permissive, and neglectful or disengaged.

However, we cannot assume parenting practices are universal and we cannot generalize that parenting practices are similar among Hispanic families (Calzada, 2010).

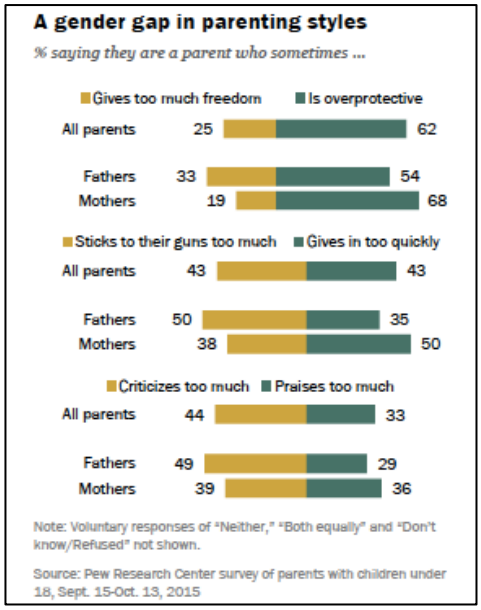

Figure 14. Parenting styles. In the U.S. (2015) Source: Parenting in America (Pew Research Center, 2015).

Parenting styles have conceptualized as previously presented in theoretical models and research. However, real-world interviews ask parents questions such as the ones presented in Figure 14, (Pew Research Center, 2015) (i.e., "I stick to my

guns too much"). Results from this survey showed that there were gender differences between American fathers and mothers in the parenting style they tend to use. The majority of parents said they tend to overprotect their children (62%), especially among mothers. However fathers tended to give more freedom than mothers. In general, mothers self-identified as people who give too much too quickly and the contrary scenario was shown for parents, who self-identified as more strict and consistent with their decisions. Finally, parents, especially fathers, reported that they criticized their children more than they praised them.

In the following sections we will describe specific parenting practices such as parental warmth, parental coercive discipline, parental monitoring and we will also focus in parental social support as self-perception of support may influence parenting practices. Afterwards we will review Hispanic-specific and Puerto Rican parenting practices.

5.1.1. Parental warmth

Rohner, (1986) conceptualized the *Parental Acceptance-Rejection Theory* (PARTheory), a bipolar continuum between two dimensions: (1) *Parental acceptance*: at the positive end, with parental behaviors such as warmth, affection, care, comfort, nurturance and support in a way of expressing love towards the children; (2) *Parental rejection*: at the negative end, referring to the lack of warmth, love and affection by parents.

PARTheory is a socialization theory with the main goal of explaining antecedents, consequences and correlates of PW (Khaleque & Rohner, 2002). PARTheaory is divided in three subtheories: (1) *Personality subtheory*, which focuses in studying two questions: a) "What happens to people who perceived themselves to

be accepted or rejected by their parents (or attachment figures)?"; and b) "if being rejected in childhood, to what extent those effects will be expanded to later in life and adulthood?" − we will focus on the personality subtheory in this dissertation −; (2) *Coping subtheory*, which focus on studying one question: a) "Why some children and adults, after experiencing childhood rejection, cope better than others?"; and (3) *Sociocultural systems subtheory*, which focus on studying two questions: a) "Why some people are in the positive end (i.e., warmth) of acceptance-rejection and others move in the negative end (i.e., rejection)?"; and b) "What are the universal tendencies through cross-cultural research?".

One postulate of PARTheory describes that children's psychological adjustment − irrespective of culture, ethnicity, race, age, gender and socioeconomic status − varies as a consequence of the parental acceptance (both paternal and maternal) the child received (Khaleque & Rohner, 2002). A meta-analysis testing the universality postulate (Rohner & Khaleque, 2010), included studies with samples from Korea, the U.S., Finland, Bangladesh, India, Kuwait, Colombia, Puerto Rico, Japan and Turkey (N=3,568). Results showed that psychological adjustment tends to correlate with the paternal and maternal acceptance experienced during childhood among all the countries studied.

5.1.1.1. Parental warmth across cultures

Research has shown that the ecological context of families and factors such as socialization experiences, individual family practices and cultural background play a key role in shaping parenting styles and practices and family functioning (Belsky, 1984). Moreover, each ethnic group tends to strongly follow and practice the parental practices from their cultural roots (Ng, 2005). The majority of study on parenting has

been done with White Americans, whose parenting attitudes have been used as the gold standard or the norm in comparing parenting styles and practices with other groups. Within this context, while parenting is a ubiquitous activity across cultures and displaying parental warmth may be present in all cultures as well (Rohner & Khaleque, 2010), be cross-cultural differences on the levels of warmth displayed by each culture is not yet well understood.

A recent study on the perceived parenting styles and cultural influences in adolescents from different cultural backgrounds (Mousavi, Low, & Hashim, 2016), found significant differences in the levels of warmth reported by adolescents. Chinese adolescents reported the lowest levels, followed by Malay adolescents in the lower rank, and by European American, Indian and Arab adolescents in the higher rank. There were no significant differences for rejection. Chinese adolescents reported an anxious rearing, greater rejection and less direct warmth (i.e., resembling to the authoritarian parenting style), in line with previous literature (Jambunathan & Counselman, 2002; Keshavarz & Baharudin, 2009; Rudy & Grusec, 2006). Arab parents were more likely to display direct parental warmth and intimacy and display at the same time overprotective behaviors, which could be interpreted as an expression of care and love. European American adolescents rated their parents with high warmth and low control in relation to the Chinese parents, consistent with results from other western samples (Varela, Niditch, Hensley-Maloney, Moore, & Creveling, 2013).

Also Brody and Flor (1998) describe the “no-nosense” parenting style (derived from (Young, 1974)) among rural and poor African American families, which consisted in extremely controlling interventions (including physical restrain and physical punishment) that occur accompanied by warmth and affectionate

behaviors (Brody & Flor, 1998). These parenting behaviors in combination are a way to express to the children that the parent is concern and vigilant and will protect the child from any outside danger.

5.1.2. Parental coercive discipline

Parental coercive discipline, as described by Kim, Hetherington, and Reiss, (1999) entails parental hostility, reprimand and irritation about relatively trivial issues, with parenting inconsistencies (i.e., threatening to use punishment without making it happen) and returning aggression, which may yield to the child's noncompliant, aggressive behaviors.

Patterson, Reid, and Dishion, (1992) described coercive discipline and tactics (i.e., yelling, hitting, and verbal aggression; inept discipline, parental negative reinforcement and negative reciprocity) from the coercion theory perspective (Patterson, Reid, & Dishion, 1992; Patterson, 1982). This theory proposes a mutual reinforcement process where parents unintentionally reinforce children's conduct problems. It is suggested that child aggression and antisocial behavior occurs as a consequence of coercive and inconsistent parenting, which is associated with more noncompliance in children, and may lead to an escalating cycle of coercive dynamics and interchange between the parent-child dyad (Snyder, Edwards, McGraw, Kilgore, & Holten, 1993). If these cycles and coercive dynamics dominate within the family, child conduct problems appear and become stable during development (Granic & Patterson, 2006). Some of the consistent results from the literature show that inconsistent discipline is associated to children's physical aggression and externalizing behaviors (Kim et al., 1999; Lansford et al., 2011; Patterson, Dishion, & Bank, 1984) (see Thompson-Gershoff, (2002) for a systematic review and meta-

analysis). Nevertheless, some studies point out that this is only true for White American children, while African American children show less internalizing behaviors when their parents used coercive discipline methods (Lansford, Deater-Deckard, Dodge, Bates, & Pettit, 2004). Although the majority of research on coercive discipline has been done with male samples, some studies report that the same mechanisms apply for females (Eddy, Leve, & Fagot, 2001) while others only find results among boys (Kerr, Lopez, Olson, & Sameroff, 2004; Kim et al., 1999).

Finally, it has been proposed that child temperament (van Zeijl et al., 2007) and moral regulation (Kerr et al., 2004) (i.e., "child's ability to recognize wrongdoing, adequate conduct, restrain from misbehavior, and a predisposition to reparation of damages (Kochanska, Devet, Goldman, Murray, & Putnam, 1994))" as a possible mechanism which mediates the relationship between parental discipline and behavior problems. Therefore, traits of the children may have a role in this relation, making the escalating cycles of coercive dynamics more likely to happen.

5.1.3. Parental monitoring

Kerr and Stattin, (2000) describe that the initial parental monitoring definition was "a set of correlated parenting behaviors involving attention to and tracking of the child's whereabouts, activities, and adaptation" (Dishion & McMahon, 1998). From this perspective, monitoring was conceptualized as a parental action, which does not differ much from the dictionary definition of "to monitor" (i.e., "to keep watch over or chech as a means of control" (Read & et al., 1995). However, in an effort to revisit the definition, Stattin & Kerr, (2000) diffeenciated between solicitation, control and disclosure as the way parents obtain the information regarding their children's whereabouts and activities (Laird, Marrero, & Sentse, 2010). Therefore, 1) *control*

denotes parent active efforts to control their children's behavior by the application of rules, limitations and restrictions (behavioral control as opposed to psychological control (Barber, Olsen, & Shagle, 1994)); whistl 2) *solicitation* denotes parent-initiated efforts to acquire that informatin from their children. In contrast, 3) *disclosure* would not be part of the definition of monitoring since it denotes the children's willigness to share that information with his parents Stattin & Kerr, (2000). This new conceptualization changes the deinition of "parent knowledge of their children's wereabouts". This knowledge was assumed to be an outcome from parental monitoring, nevertheless, it is more related to disclosure (i.e., child willigness, regardless of parental efforts to control).

Results from both longitudinal and crossectional studies have overwheamingly associated low levels of parental monitoring with adolescents problematic behaviors (see Crouter & Head, 2002 for a review); delinquent, criminal and antisocial activities (Bank, Burraston, & Snyder, 2004; Crouter, MacDermid, McHale, & Perry-Jenkins, 1990; Kiesner, Poulin, & Dishion, 2010; Patterson & Stouthamer-Loeber, 1984; Sampson & Laub, 1994; Soenens, Vansteenkiste, Smits, Lowet, & Goossens, 2007; Weintraub & Gold, 1991); illegal substance use (Flannery, Vazsonyi, Torquati, & Fridrich, 1994); having deviant friends (Dishon, Capaldi, Spracklen, & Li, 1995) who use or approve substance use (Barrera, Chassin, & Rogosch, 1993); who smoke tobbaco (Biglan, Duncan, Ary, & Smolkowski, 1995). Nevetrtheless, some studies also point out that excessive parental monitoring and wheter adolescents may feel overcontrolled may result in the contrary intended effect (i.e, increase the influence of delinquent peers) (Tilton-Weaver, Burk, Kerr, & Stattin, 2013).

5.1.4. Parent social support

Social support refers to the "feelings of being loved, valued, and able to count on others during times of need" (Cobb, 1976, in Turner & Brown, 2010). Ceballo and McLoyd, (2002) propose that social support can be divided in two sub-constructs: 1) emotional support, measured through number of contacts with close friends and questions such as "have you been able to talk to or confide in people about things that are important to you?"; and 2) instrumental social support: measured through actual help received by others such as run errands or help if someone in the family was sick. For migrant families, and especially for Hispanic, who place the maintenance of close relationships as an important value, social support (a part from the nuclear and extended family) is important (i.e., neighbors, priests, community, other parents from their children's school). Social support has been associated with a positive influence on health outcomes, resilience (Flores & Brotanek, 2005), and positive mental health (Mulvaney-Day, Alegría, & Sribney, 2007). Moreover, some research suggested that having a social network may help social integration and the adaptation to the new culture (Cohen & Wills, 1985), especially when the social network is diverse (i.e., not exclusively integrated by same ethnicity/race members) (Britton, 2014). Furthermore, perceived social support by parents and families seem to also have a positive impact on child emotional and physical health (Barnett, 2012; Campos et al., 2014; Mulvaney-Day et al., 2007; Sameroff, Seifer, Baldwin, & Baldwin, 1993).

It has been suggested that one of the potential mechanisms through which social support may be related to positive physical and mental health outcomes is as a "stress buffer" among parents (Belsky, 1984; Cohen & Wills, 1985). That is, it has been suggested that social support may bolster positive parenting, being more nurturing and showing higher levels of parental warmth and a decrease in coercive

discipline and punitive strategies (Bronfenbrenner, 1986; McLoyd & Wilson, 1990; Repetti, Taylor, & Seeman, 2002). For instance, there was an association of parent support with child behavior (i.e., internalizing and externalizing symptoms) mediated by positive parenting (i.e., warmth, and positive reinforcement) among Latina mothers, but only for family support, not from school support (Serrano-Villar, Huang, & Calzada, 2016). Higher levels of social support have also been related to more positive attitudes toward parenting and less psychopathology (Bunting & McAuley, 2004). Contrary, and in the negative end of the continuum, lack of social support is associated with depression (Huang, Costeines, Ayala, & Kaufman, 2014); and complete parental isolation from friends and social networks has been associated with neglect and child abuse, especially among low socio-economic families (Wandersman & Nation, 1998). Also, Taylor, Conger, Robins, and Widaman, (2015) have proposed that social support help children's emotional competence because of the moderating effect of maternal monitoring and warmth among Hispanic mothers.

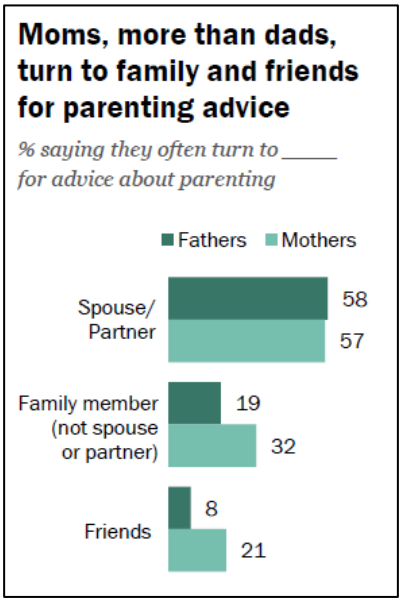

Figure 15. Parental social support by gender. Source: Pew Research Center (2015).

A study of parenting in the U.S (Pew Research Center, 2015) reported that nearly half (44%) of the U.S. parents interviewed reported having a lot of support, 39% reported some support, 15% some support and 2% reported that they had no support. There were no significant differences across races/ethnicities or fathers vs. mothers. However, single-parent families (22%) differed significantly from married parents (15%) in their perceived support (i.e., said they had nearly no support). Figure 15 shows the person parents ask for parenting advice, which is directly related to their social support.

After having described different parenting practices in general, it is important to notice that Hispanic parents display some of these parenting behaviors and parenting styles in a different way than White American parents.

5.2. Parenting practices among Hispanic families

Parental values and practices are shaped by ethnic culture, socioeconomic characteristics and individual experiences; nevertheless ethnic culture seems to be the strongest influence on parenting (Valsiner & Litvinovic, 1996). It seems that parenting values are maintained consistent over time even after experience individual stressful parenting experiences that could compromise these values (i.e. having a child with a disability) (Emily Arcia, Reyes-Blanes, & Vazquez-Montilla, 2000). In order to rule out the influence of socio-economic factors, studies on parenting usually control for socio-economic status. For instance, comparisons of parenting cultural values among Puerto Rican mothers and White Americans greatly differed and this difference was maintained even after controlling for socioeconomic status, meaning that ethnic culture may exert a unique influence on parenting values (Harwood, Sehoelmerieh, Yentnra-cook, Schulze, & Wilson, 1996). Therefore, understanding

parenting in the U.S. needs detailed study of the cultural diversity regarding values and different parental goals intrinsic to each culture. However, literature on parenting practices among specific cultural groups has not been abundant, and the existing studies on Hispanic parenting practices present contradictory results (Martinez, 1999).

Traditional Hispanic culture emphasizes control over their children which tends to foster authoritarian parenting more often than White American, non-Hispanic parents (Bulcroft, Carmody, & Bulcroft, 1996; Driscoll, Russell, & Crockett, 2007; Varela et al., 2004). However, these conclusions have been made based in a small number of studies. Other studies suggested that Hispanic mothers do not praise their children as much as the White American mothers (Garcia Coll, 1990) and use physical discipline for misbehavior (Fracasso, Busch-Rossnagel, & Fisher, 1994; Knight, Virdin, & Roosa, 1994). Nonetheless, although the majority of the Literature targeting Hispanic parenting styles report that controlling practices are common, Hispanic parents also display warm behaviors (Staples & Mirandé, 1980; Varela et al., 2004). Moreover, as we have previously defined, control and monitoring differ from other parenting practices such as coercive discipline (i.e., spanking).

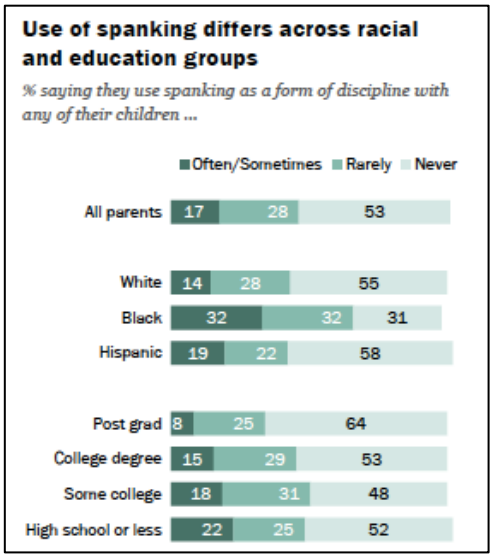

Figure 16. Use of spanking in the U.S. by race/ethnicity and by parental education level. Source: Pew Research Center (2015).

As shown in Figure 16, data from a study of parenting in the U.S (Pew Research Center, 2015) showed that although spanking is an unpopular form of coercive discipline one in six parents uses it sometimes. Hispanic parents (58%) reported most often that they never use spanking as a coercive discipline measure towards their child (Pew Research Center, 2015). However there were less Hispanic parents in the middle position ("rarely spanking", 22%) compared to their Black or White parents counterparts; with still 19% of the Hispanic parents using spanking as a usual coercive discipline practice. Spanking was associated with parental education, with lower education being associated to more spanking as a method of coercive discipline.

We have shown some characteristics of parenting practices and their correlates among the general U.S. population, and we have described parental values and practices that are shaped by ethnic culture and Hispanic parents share some parenting practices. However, parenting practices may differ among different Hispanic subgroups as well and therefore, Puerto Ricans may display their own parenting peculiarities.

5.2.1. Parenting practices among Puerto Rican families

The preceding section focused on Hispanic parenting as a whole. Literature on the field of parenting initially studied combined subgroups (Mexicans, Dominicans, Cubans, Puerto Ricans, etc.) under a single category of Hispanic or Latino group. We may be assuming that all groups are similar, have resembling family values, or come from the same background. These assumptions fail to consider the uniqueness for each particular group. In order to understand the role of family structure and transitions, cross-context integrative models that study variations within one specific

Hispanic subgroup instead of between Hispanic sub-groups are necessary. Therefore we follow García-Coll et al., (1996) conceptual framework which pointed out the lack of empirical and theoretical literature focusing on a culturally diverse racial/ethnic subgroups. This is particularly relevant for Hispanic families.

Results from the MECA study (N=1,210) (Bird et al., 2001) showed that only 6.6% of Puerto Rican parents in Puerto Rico (n=301) reported coercive discipline, the lowest levels compared with African American parents, Hispanic parents living in mainland U.S and White American parents. Moreover, high levels of parental coercive discipline were associated with more child psychiatric disorders. Another report based on the Boricua Youth Study (Jennings et al., 2010) examined trajectories of delinquency among Puerto Rican adolescents in Puerto Rico and mainland U.S and showed that the use of coercive discipline was a predictor of trajectory membership (group 1: non-offenders; group 2: stable but slightly decline rates of delinquency; 3) high offending rate initially and declined over time).

Results from a study on self-reported parenting practices in Puerto Rican mothers (Calzada & Eyberg, 2002), showed that Puerto Rican mothers engaged in high levels of positive parenting practices (i.e., resembling the authoritative parenting style (Baumrind, 1996)). More than 80% of the mothers reported high levels of warmth (i.e., use of praise and affect) and no use of physical punishment as a way of disciplining. These results contrast findings of previous studies, which did not take into account specific Hispanic subgroups (see previous section). Moreover, mothers endorsed consistency in their way of disciplining their children without ignoring misbehavior. This may be relevant in the educating towards *respeto* (i.e., respectfulness and conformity to parental and extended family rules (Zayas, 1994)), which is expected in Hispanic culture. Regarding the relationship between parenting

and other variables, Puerto Rican mothers whose husbands were more educated endorsed lower levels of authoritarian parenting. Moreover, higher acculturation was associated with more involvement and more display of warmth with their children among Puerto Rican mothers. Other studies did not find a relationship between acculturation and warmth among Puerto Ricans (Mogro-Wilson, 2008), meaning that initial levels of warmth remain stable regardless of acculturation. Conversely, less acculturated mothers did not report more authoritarian parenting either. Therefore, it seems Puerto Rican mothers are characterized by high responsiveness and warmth towards their children, which may indicate the presence of strong family values and identification with family members (i.e., familism), which are reflected in Puerto Rican parenting practices. Therefore, although parenting may be similar at the global level of conceptualization, it seems that parenting practices and dimensions differ between different Hispanic subgroups (Calzada & Eyberg, 2002).

5.2.2. Qualitative outcomes of parenting practices among Puerto Rican families

Qualitative analysis is also necessary to meaningfully understand dynamics and the subjective input of parenting practices by specific Hispanic subgroups. Qualitative research on the Puerto Rican parenting practices in an urban context showed that parenting is better understood when integrating it with core Hispanic values such as familism, respect, sympathy and personalism (*familismo*, *respeto*, *simpatía*, and *personalismo*) (Guilamo-Ramos et al., 2007). Focus groups were conducted with dyads of mother-adolescent from Puerto Rican and Dominican background (N=63 pairs). Five main themes regarding parenting practices were identified: 1) guarantee monitoring of the adolescents; 2) sustaining supportive, warm

and acceptance relationships; 3) constant effort to enhance relationships; 4) distinction on the type of parenting practices depending on the gender of the adolescent; and 5) need to explain parental decisions and behavior.

Puerto Rican mothers reported the importance of supervising their adolescents and to have control over their day-to-day activities (i.e., parental monitoring). The majority of the mothers endorsed that they expected their adolescents to obey family rules and follow parental guidelines. However, they also underscore the importance of parental firmness to maintain the respect from their adolescents without displaying harsh discipline. Puerto Rican mothers described this parenting practice as "tough love" (i.e., building a reciprocal relationship by discussing and being part of their adolescent's activities). Therefore, mothers reported the need of both explaining their parental decisions and letting their adolescent children to voice their opinion, balancing parenting rules and adolescent's autonomy. Similar to Calzada and Eyseberg, (2002), Puerto Rican mothers highlighted the importance of supportive and warm parent-child relationships as they recognized control itself was deleterious to promote a positive childrearing. The majority of mothers responded in a way consistent with *familismo* values, where close and trusting family relationships were considered one of the most desirable family values. Nevertheless, working mothers expressed that they did not have as much time as they would like to spend with their adolescents, stressing the notion that quality time spend with their adolescents was more important than the quantity of time. Moreover, some gender differences arose as Puerto Rican mothers expressed their parenting practices tended to be different with boys and girls. Mothers expressed that boys sometimes were raised with more freedom (i.e., more autonomy, allowing them to do more outside from home activities) than girls, which were foster to help with household activities. These

parenting differences related to gender are in line with some Hispanic cultural norms such as *machismo* and *marianismo.*

Finally, after reviewing Puerto Rican historical background and how the oppression and migratory and acculturated experiences may have shaped current cultural norms, family values and family structure as well as the prevalence of psychiatric disorders and general attitudes towards them (i.e., substance use disorders), in the following section we will describe the Boricua Youth Study (primary study from which secondary analyses were performed to report on the three studies we present), before integrating the previous information within three empirical studies.

THE BORICUA YOUTH STUDY

The Boricua Youth Study (BYS) or *El Estudio de la Juventud Boricua*, is a longitudinal study originally designed to address prospectively the development of disruptive disorders and antisocial tendencies in two populations of Puerto Rican children. Participants were recruited through probability sampling of households in San Juan and Canguas Metropolitan Area in Puerto Rico (PR) and in the South Bronx in New York (U.S.) (SB) (see Figure 17) (Bird et al., 2006; Bird et al., 2006).

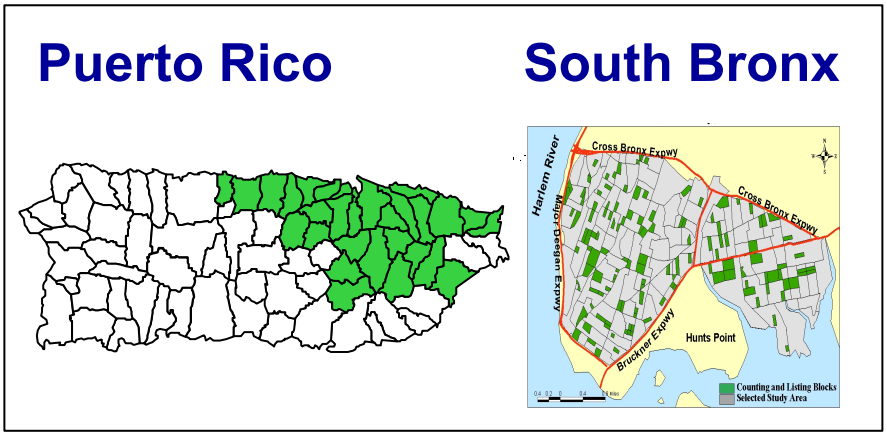

Figure 17. Recruitment area: probabilistic samples grouped into replicate subsamples from the Boricua Youth Study (Puerto Rico and the South Bronx).

1. Study procedures

Participants were recruited through probability sampling of households representing the target population. The initial recruitment objective was a minimum sample of 1,125 children (5-13 years old) at the Standard Metropolitan Areas (SMAs) in San Juan and Canguas (Puerto Rico) and in The South Bronx (New York City). At the time of enumeration, a household was eligible if:

1.1. Inclusion criteria

(1) At least one child residing in the household was 5 to 13 years old and identified by the family as being of Puerto Rican background;

(2) At least one of the child's parents or primary caregivers residing in the household also self-identified as being of Puerto Rican background.

(3) All of the eligible children per household were selected to participate up to a maximum of 3 children in each household. If there were more than three children meeting inclusion criteria, three of them were randomly nominated using Kish tables (Kish, 1965).

1.2. Exclusion criteria

(4) Child's parents knew that the child was diagnosed with mental retardation or was developmentally disabled.

(5) Children had not lived in the household for at least the previous 9 months or were absent because they were living in another residential setting (in this case reliable information would not be available).

1.3. Probability sampling

In both Puerto Rico and the South Bronx, those households selected were grouped into replicate subsamples. Each replicate is a randomly selected subsample, which represents the target population. This procedure helps to maintain a representative sample when the exact number of cases needed is unknown by subdividing the sample in replicates. Once the sample needed is achieved, data collection can be stopped at the end of a replicate.

In PR, the primary sampling units (PSUs) were 163 households clusters located in the Metropolitan Area and representative of the 1990 U.S. Census. In The SB, 150 PSUs were randomly selected. Secondary sampling units were households also randomly selected within the PSUs, yielding a total selection of 5,872 housing units.

1.4. Weighting of the samples

Both samples were weighted to represent the populations of Puerto Rican children living in San Juan (Puerto Rico) and in The South Bronx. These kinds of analysis are employed to adjust for differences in the probability of selection that may occur due to sampling design and differences between the 1990 and the 2000 Census (especially in age and gender distributions).

2. Interview procedures

All parents signed informed consent (and children older than 7 years old were asked for assent). The assessments and interviews were conducted in the participant's household. If possible, all family members were interviewed the same day (in different rooms). All the interviews were undertaken with a computer (interviewers read questions out loud and typed answers on the laptop) both in English and Spanish (respondent's preference). If both parent and children agreed, interviews were audio-recorded to ensure the maximum fidelity to procedures. Guidelines provided by (Stouthamer-Loeber & Van Kammen, 1995) were followed to ensure sample maintenance procedures. Participants (each parent-child dyad) were reimbursed $75 for finishing the assessments. Interviewers were research assistants with a minimum of a high school education and were fluent in both English and Spanish. Interviewers

had proper training during 2 weeks (i.e., recruitment, informed consent, interview administration) and observed other interviews.

2.1. Quality control of the interviews

The assessments were audio-recorded for the purposes of quality control and to ensure that interviewers followed guidelines (i.e., read full questions exactly as they appear; did not prompt answers in respondents; data were properly entered; follow up with clinicians if safety issues arose such as endorsement of suicidal ideation). The first two interviews of each interviewer were fully reviewed by a supervisor. If an interview did not meet the quality standards, the interview was dismissed and repeated. If only some items were problematic, follow-up on the phone was done. Identified unsatisfactory performance was communicated to interviewer and retrained. Once an interviewer was fully trained, audio-recordings of 15% of all the interviews were randomly selected for quality control. Due to the computerized assessment, missing data or out-of-range coding was not possible.

3. Ethics

Finally, all forms and procedures were approved by the Institutional Review Boards at the New York State psychiatric Institute and the University of Puerto Rico Medical School. Detailed information about the study design, sampling, and methodology has been reported by Bird, Canino et al. (2006).

4. Measures

Measures used with adult respondents are shown in Table 1, and Table 2 shows measures used without youth respondents.

Table 1. Measures or data obtained from adult informant (original Boricua Youth Study)

Measure	Description	Cronbach's alpha	Source
Acculturation (of parent)	Cultural Life Style Inventory Bidirectional scale: items inquire about preferences in language and other ethnic characteristics.	.88	Magaña et al., 1996; Mendoza, 1989
Attitude toward delinquency	28-item scale	.63	Loeber, 1998
Birth weight (<2,000 g)	Demographics questionnaire elicited child's birth weight	NA	Developed for this study
Child/parent nativity	Demographics questionnaire elicits parents' and child's place of birth	NA	Developed for this study
Child's involvement in activities	4 items	NA	Developed for this study
Child's talents	6 items (special skill in sports, arts, mechanical, etc.)	NA	Developed for this study
Child's temperament	2 items about child's temperament as an infant (easy vs. difficult child)	.69	Developed for this study
Child's social adjustment	2 items related to getting along with teachers and peers	.71	
Coercive discipline	Parental Discipline Scale	.54	Goodman et al., 1998
Cultural stress	Hispanic Stress Inventory	.83	Cervantes et al., 1990; Cervantes et al., 1991
Developmental delay	2 items about achievement of motor and language milestones	NA	Developed for this study
Early aggressively in child	6 items about aggressive behaviors at age 2-3 yr. (hitting, bitting, hurting animals, destructive, other aggressive behaviors)	.77	Developed for this study
Familism	Familism Scale	.76	Sabogal et al., 1987
Family functioning	Family APGAR	.91	Good, 1979
Home physical environment	Abridged version of HOME Scale	.73	Bradley and Caldwell, 1977
Marital disharmony	Dyadic Adjustment Scale	.72	Sharpley and Cross, 1982; Spanier and Filsinger, 1983
Maternal depression	Adaptation of depression schedule of prime maternal depression	NA	Spitzer et al., 1999
Maternal acceptance/warmth	Adapted from Hudson's Index of Parental Attitudes	.81	Hudson, 1982
Neighborhood characteristics	17-item description of quality of neighborhood	.95	Loeber et al., 1998
Neighborhood monitoring	4 item of extent that neighbors monitor youths	.75	Loeber et al., 1998
No. of residents in the home	Demographics questionnaire ; household residents listed	NA	Household listing
Parental possible antisocial personality disorder diagnosis	DSM-IV criteria for antisocial behavior and the FHE	NA	Lish et al., 1995 + questionnaire developed for this study
Parental substance abuse	FHE	NA	Lish et al., 1995
Parental education	Demographic questionnaire (highest level completed by each parent)	NA	Parental report

Table 1. Continued

Measure	Description	Cronbach's alpha	Source
Parental monitoring	Parental monitoring scale (various aspects of monitoring: curfews, supervision, keeping track of child's whereabouts)	.55	Patterson and Stouthamer-Loeber, 1984
Parental psychopathology	FHE	NA	Lish et al., 1995
Per capita income	Demographics questionnaire housing unit income/no. Of household residents	NA	Household listing and parental report of income
pre-/perinatal complications	Questionnaire to elicit pregnancy and perinatal complications (e.g., bleeding or toxemia during pregnancy, low birth weight, jaundice)	NA	Developed for this study
Poor school performance	Level of performance in 10 academic subjects	.90	Parental report of school information
Religiosity (intrinsic)	Religiosity Scale	.67	Miller et al., 1997
Religiosity (extrinsic)	Religiosity Scale	.61	Miller et al., 1997
Single-parent family	Demographics questionnaire; status at time of interview	NA	Developed for this study
Social support	Questions about quality and quantity of social support	.71	Thoits, 1995
Substance use during pregnancy	Questionnaire on prenatal and developmental history inquiring about substance use and which substances	NA	Developed for this study
Teenage motherhood	Demographics questionnaire; mother's age at child birth	NA	Based on mother's and child's birth dates

Note: NA=Not applicable.

Note: Source: Bird et al. (2006). A study of disruptive behaviour disorders in Puerto Rican youth: I. Background, design, and survey method. *Journal of the American Academy of Child and Adolescent Psychiatry*.45, 9, 1032-1041

Table 2. Measures or data obtained from the youth informant (original Boricua Youth Study)

Measure	Description	Cronbach's alpha	Source
Acculturation (of youth)	Cultural Life Style Inventory bidirectional scale; items inquire about preferences in language and other ethnic characteristics	.86	Magaña et al., 1996; Mendoza, 1989
Age	5-13 yr.	NA	Date of birth and date of interview
Attitude toward delinquency	39-item scale (elicits permissive attitudes toward antisocial behavior)	.93	Loeber et al., 1998
Coercive discipline	Child's perception of quality of parental discipline	.67	Goodman et al., 1998
Cultural stress (>9 yr. old)	Hispanic Stress Inventory	.42	Cervantes et al., 1990, 1991
Exposure to violence	Exposure to community violence (happened to self, saw it happen to someone, heard of it happening); scale score weighing different levels of exposure	NA	Raia, 1995; Richters and Martinez, 1993
Familism	Familism Scale (elicits extent to which different family members support the family unit)	.44	Sabogal et al., 1987
Gender	Obtained at interview	NA	Observation
Locus of control	12 items from Locus of Control Scale (internal vs. external control)	.42	Nowicki and Strickland, 1973
Neglect	Parental Discipline Measure	NA	Goodman et al., 1998
Parent-child interaction	12-item scale	.75	Loeber et al., 1998
Parental monitoring (>9 yr. old)	Parental Monitoring Scale	.51	Patterson and Stouthamer-Loeber, 1984
Peer delinquency	Antisocial behavior among peers	.85	Loeber et al., 1998
Peer relationships	Index of Peer Relations (5 items about belonging, feeling liked, and getting along with others)	.58	Hudson, 1992
Physical abuse	Parental Discipline Scale	.76	Goodman et al., 1998
School environment	8 items describing characteristics of the school environment	.55	Developed for this study
Self-esteem	Self-perception profile for children (abbreviated 8-item scale including items in 5 domains)	.46	Harter, 1982
Sensation-seeking	Sensation-seeking scale (abbreviated 10-item scale; 7 items from thrill- and adventure-seeking factor; 3 items from social disinhibition factor)	.72	Russo et, al., 1991, 1993
Sexual victimization (abuse)	Sexual victimization measure	NA	Finkelhor and Dziuba-Leatherman, 1994
Social support	Measure developed by M. Bravo, based on Thoits	.49	Thoits, 1995
Stressful life events	Stress Scale	NA	Goodman et al., 1998; Johnson and McCutcheon, 1980
Verbal/psychological abuse	Parental discipline	NA	Goodman et al., 1998

Note: NA=Not applicable; Source: Bird et al. (2006). A study of disruptive behaviour disorders in Puerto Rican youth: I. Background, design, and survey method. *Journal American Academy of Child and Adolescent Psychiatry*.45,9,1032-1041

5. Baseline and follow-up assessments

Assessments were done at baseline (wave 1) and at two follow-up points (see Figure 18), each spaced by 12 months (mean: 349.6 days; SD: 54.6) from the previous wave. For the entire sample (n=2,951, age 5-13), the compliance rates at wave one were 80.5% for SB and 88.7% in PR (n=2,491) (Bird et al., 2006). Site-specific sample retention in the two follow-ups one year apart was over 85%. In wave 2 compliance rates were 89% for SB and 93.8% in PR of wave 1 (n=2,286). In wave 3, rates were 95.8% for SB and 95.6% in PR of wave 2 (n=2,187) (Bird et al., 2007).

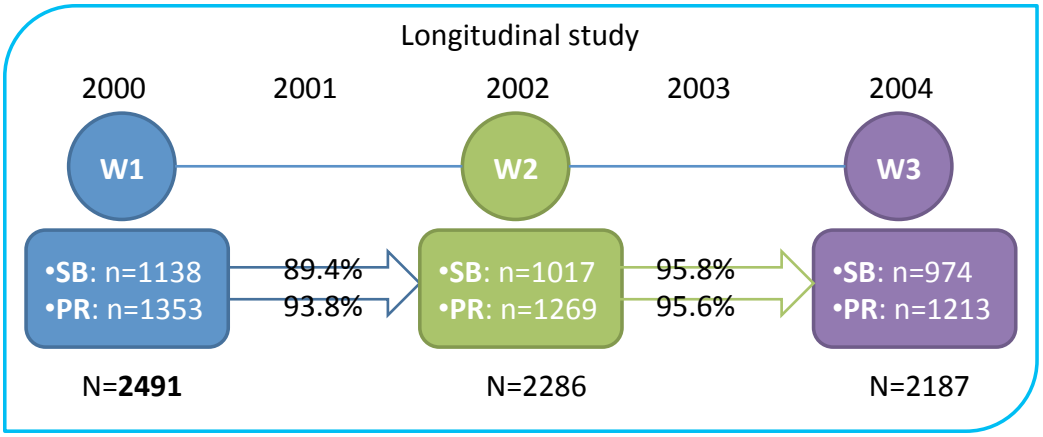

Figure 18. Boricua Youth Study longitudinal design. Participants by wave by site (South Bronx and Puerto Rico).

OBJECTIVES

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1. Study 1

To address whether parental warmth (PW) is associated with specific psychiatric disorders (i.e., anxiety, major depressive disorder (MDD), Attention Deficit and Hyperactivity Disorder (ADHD), and disruptive behavior disorder (DBD)) in Puerto Rican children and its changes over time. To explore whether: (1) PW would be associated with lower odds of youth psychiatric disorders over time; (2) PW would be related to youth psychiatric disorders independently of other parent and family factors (parental coercive discipline, parental monitoring, parental psychopathology, familism, and social support), and (3) there would be differences in the association between PW and different youth psychiatric disorders across sociocultural contexts (study site), child gender and age.

2. Study 2

To prospectively examine (1) the unique relationship of PW and youth alcohol use, non-alcohol substance use (SU) (drugs, tobacco and marijuana), and any SU over three years among Puerto Rican youth; (2) whether youth from families with higher levels of PW, independently of other parental factors, would present lower levels of non- alcohol SU and any SU over the course of three years; (3) due to the lack of previous research regarding PW and alcohol and high rates of consumption of alcohol among this population, we cast doubt about the role of PW over alcohol.

3. Study 3.

To examine the influence of family structure and family transitions on child psychiatric disorders in this population. We examined: (1) the influence of family structure (including cohabitation unions) on child psychiatric disorders, to verify, among Puerto Rican youth, if two-parent family structures would have a more beneficial impact on the development of psychiatric disorders compared with the single-parent family structure; (2) Whether Puerto Rican children whose families had experienced a family transition would have a higher risk of psychiatric disorders compared with those children living in a stable two-parent family (regardless of their marital status); (3) Whether other parental factors might have better explained possible effects of family structure or transitions towards child psychiatric disorders.

STUDY 1

PARENTAL WARMTH AND PSYCHIATRIC DISORDERS AMONG PUERTO RICAN CHILDREN IN TWO DIFFERENT SOCIO-CULTURAL CONTEXTS

STUDY 1

1. Introduction

Considering the large and growing number of Hispanic families in the U.S. and the high risk for psychopathology present in the Hispanic subgroup in closest contact with the U.S. culture (i.e., Puerto Rican individuals; (Alegría et al., 2007)), it is important to understand risk and protective factors relevant for acculturating Hispanic families. For individuals from an ethnic group, such as Hispanic youth, whose culture is characterized by a strong family orientation, parenting practices may exert a central influence on the development of psychopathology. Initial evidence supporting the importance of parenting (i.e., positive involvement, problem solving, effective discipline, monitoring and skill building) for Puerto Rican children is available (e.g. Domenech, Franceschi, Sella, & Félix, 2013). However, prior studies have been limited by cross-sectional design, focus on symptoms (rather than clinically meaningful disorders) and failure to identify the specificity of the effect of the association between key parenting practices and child psychopathology.

Parental warmth (PW) - a child-rearing practice that includes acceptance, affection, nurturance, support, love, and enthusiasm for children's endeavors and accomplishments - is a critical parenting behavior influencing child development (Khaleque & Rohner, 2002). Low parental warmth has been associated with youth psychopathology, such as anxiety symptoms and anxiety disorders (McLeod, Wood, & Weisz, 2007), depressive symptoms and depression (McLeod, Weisz, & Wood, 2007), and externalizing behaviors (Buschgens et al., 2010). While specific parenting behaviors seem to be more closely linked to specific types of problems - such as parental hostility and child depression (McLeod, Weisz, et al., 2007), or parental

monitoring and child behavioral problems (Fletcher, Steinberg, & Williams-Wheeler, Fletcher, Steinberg, & Williams-Wheeler, 2004) - it is unclear whether PW is linked to specific or a wide range of conditions (see McKee, Colletti, Rakow, Jones, & Forehand, 2008). It is possible that PW is relevant for different types of conditions. The majority of research has indicated that PW is inversely associated with both youth depression (Cumsille, Martínez, Rodríguez, & Darling, 2015) and anxiety (Wood, McLeod, Sigman, Hwang, & Chu, 2003), with indications that associations are stronger with depression than anxiety (McLeod, Weisz, et al., 2007), however, the literature has also demonstrated the relevance of PW for externalizing behaviors in youth such as ADHD and conduct problems. Nevertheless, few studies have examined externalizing and internalizing disorders together; those that did found inconsistent results regarding whether or not there is differentiation in the associations of PW with internalizing versus externalizing disorders.

One particular challenge in examining parenting practices, such as PW, is that parenting behaviors correlate with one another and are often confounded with other parent and family factors as well, making it difficult to establish their unique effects on children's outcomes. For example, PW is positively correlated with parental monitoring (Fletcher, Steinberg, & Williams-Wheeler, 2004) and social support (Mason, Cauce, Gonzales, Hiraga, & Grove, 1994) and inversely related to coercive discipline (Lansford et al., 2014). It is also possible that PW simply reflects positive parental mental health and good family functioning, both of which are expected to be inversely associated with children's psychiatric disorders. Specifically, the presence of parental psychological problems may explain parents' difficulties showing nurturance and acceptance toward their children (Horn, Cheng, & Joseph, 2004). Finally, among Hispanic families, PW and acceptance should be considered in the

context of familism, a central cultural value that reflects a strong family orientation and sense of responsibility toward family (Lugo-Steidel & Contreras, 2003) that is inversely related to conduct problems in children (Morcillo et al., 2011). Therefore, it is critical to take into account other potentially relevant family and parental factors that might contribute to youth psychopathology when considering the influence of PW.

The association between PW and youth psychopathology has been established across various countries and for several ethnic groups, including those of Hispanic background (Khaleque & Rohner, 2011). However, there is some evidence showing that the positive influence of PW might vary within specific groups depending on the sociocultural context, e.g., an ethnic/racial group living in their country of origin vs. those from the same ethnic/racial group established in another country/cultural context. In a study conducted by Varela et al (2009) with Latin American children living in the US and Mexican children living in Mexico, anxiety symptoms experienced by Latin-American children living in the US were, contrary to what is usually observed, positively related to maternal acceptance, while the protective effect of maternal acceptance was observed among Mexican children living in Mexico (Varela, et. al., 2009). Such variations may result from the relative impact of PW on children's behaviors in relation to other risks and protective factors that may be present in different contexts (McLeod, Wood, et al., 2007). The protective effect of PW might be attenuated in contexts where several types of risk factors are present, including ones specific to social status (e.g., discrimination, acculturation, stress). Recognizing how sociocultural context can modify the relationship between PW and psychiatric disorders would allow us to better tailor our interventions to children living in specific contexts.

Other potential moderators of the association between PW and youth psychiatric disorders have also been identified, though with mixed results. While some studies suggest that females are more sensitive and vulnerable to interpersonal interactions than males (Hankin & Abramson, 2001), others have found no gender differences in relation to PW specifically (e.g., McHale et al., 2005). Furthermore, the impact of parenting practices may vary depending on their child's age. Younger children may be more negatively affected by the absence of parental warmth and emotional acceptance, while older children, in their search for independence, may form meaningful relationships apart from their parents, reducing the harmful effects of low parental warmth. Therefore the strength of the association between PW and psychiatric outcomes may differ by age group.

To bridge the research gap and increase understanding about the relationship between PW and youth psychopathology, the current study examined the longitudinal association between PW and specific psychiatric disorders (i.e., anxiety, MDD, ADHD, and DBD) among Puerto Rican children living in two sociocultural contexts. A prior cross-sectional analysis of our sample reported that higher levels of PW were protective against DBD (Bird et al., 2007). Here, we expand to other important psychiatric disorders and examine this relationship longitudinally. We hypothesized that among PR families: (1) PW would be associated with lower odds of youth psychiatric disorders over time; (2) PW would be related to youth psychiatric disorders independently of other parent and family factors (parental coercive discipline, parental monitoring, parental psychopathology, familism, and social support), and (3) there would be differences in the association between PW and different youth psychiatric disorders across sociocultural contexts (study site), child gender and age.

2. Objectives

To address whether parental warmth (PW) is associated with specific psychiatric disorders (i.e., anxiety, major depressive disorder (MDD), Attention Deficit and Hyperactivity Disorder (ADHD), and disruptive behavior disorder (DBD)) in Puerto Rican children and its changes over time. To explore whether: (1) PW would be associated with lower odds of youth psychiatric disorders over time; (2) PW would be related to youth psychiatric disorders independently of other parent and family factors (parental coercive discipline, parental monitoring, parental psychopathology, familism, and social support), and (3) there would be differences in the association between PW and different youth psychiatric disorders across sociocultural contexts (study site), child gender and age.

3. Methods

3.1. Participants

Study procedures and measures are detailed elsewhere (Bird et al., 2006). In brief, the Boricua Youth Study is a representative probability sample of 2,491 Puerto Rican children in two sites: the South Bronx (SB) (n=1,138) in New York and in the standard metropolitan areas of San Juan and Caguas, PR (n=1,353). Children (age 5-13 Wave 1) were followed over three waves of data assessment one year apart (2000-2004). Inclusion criteria were: at least one caretaker self-identified as being of Puerto Rican background and the presence of a child between the ages of 5-13. A maximum of three randomly selected children were selected per household. The retention rate after three waves was over 85%. The investigation was carried out in accordance with the latest version of the Declaration of Helsinki. The study was approved by the Institutional Review Boards at the New York State Psychiatric Institute and the

University of Puerto Rico Medical Sciences Campus. All participants provided informed consent to participate in the study and assent forms for younger children. Participants were interviewed in Spanish or English; all of the respondents in PR choose Spanish. In the SB, 75% of the caregivers and 97% of the children chose English.

3.2. Measures

Demographics included: sociocultural context (site), child gender, child age (children from 5-9 vs. 10-13 years old), poverty (below/above Federal Poverty Level), maternal age, maternal education (less than high school, high school and college/above) and marital status (single vs. 2-parent family).

Parental Warmth. Measured through parental responses to 13 items from an abbreviated version of the *Hudson's Index of Parental Attitude's* (Hudson, 1982) at Wave 1. Response options were in a 4-point Likert scale (range, "Not at All/Never" to "A Lot/Very Often"). The measure reflects the overall quality of the caretaker's attitude toward the child and contains items about trust (e.g. "How much can you really trust him/her?"), closeness (e.g., "How much do you enjoy being with him/her?"), understanding (e.g., "To what extent does he/she understand you?"), and feelings between the caretaker and the child (e.g., "How often do you feel very angry towards him/her?") summed and coded such that higher values indicate higher PW (α=0.81), similar to studies with primarily a Black population (α=0.82) (Krohn, Stern, Thornberry, & Jang, 1992). Eighty-nine percent of respondents were biological mothers; the remainder were grandmothers (4.5%), adoptive or step-mothers (2.8%),

and biological fathers (1.8%). Others (1.9%) were adult siblings, aunts, or foster mothers.

Parental Coercive Discipline. Coercive discipline was assessed through parental reports of ignoring, acting cold, yelling or swearing at the child, physically and verbally abusing the child, and withholding affection (6 items, α=0.54) (Goodman et al., 1998). Higher scores represented the parent's greater use of coercive disciplinary practices.

Parental Monitoring. Measured through parental responses to a 4-point Likert scale with 9 items that assessed parental control over the child's daily activities, such as playing video games, watching television, or other activities inside/outside the household, and parent awareness of the location of their children (Patterson & Stouthamer-Loeber, 1984) (α=0.58).

Overall Parental Psychopathology. The parental responses to the *Family History Screen for Epidemiologic Studies* (FHE) (Lish, Weissman, Adams, Hoven, & Bird, 1995), a 17-item measure that has been used to screen for lifetime parental emotional problems (depression and suicide attempts), substance use and antisocial behaviors. (*kappa* ≥ .56 for test –retest reliability of self-reports (Weissman, Wickramaratne, Adams, Wolk, Verdeli, & Olfson, 2000)).

Familism. Assessed through parental responses to an abbreviated adapted version of the *Sabogal Familism Scale* (Sabogal et al., 1987). It is a 4-point Likert scale with 10 items. It assesses values and attitudes related to familial obligations,

support from family and family as referents. (α=0.77).

Social Support. Parental responses about the availability and satisfaction of the social support they received (Thoits, 1995). It assesses whether a person received help from their spouse or partner, relatives, friends and neighbors. (15 items, α=0.67).

Child Psychiatric Disorders. The *Diagnostic Interview Schedule for Children-IV* (DISC-IV) (Shaffer, Fisher, Lucas, Dulcan, & Schwab-Stone, 2000) and its Spanish version (Bravo et al., 2001) were used to assess children's anxiety, MDD, ADHD and DBD at each wave. Young children did not provide information about the disorders; thus, only parent report was used for this analysis in order to obtain information for the entire age spectrum.

3.3. Statistical Analysis

We tested the correlation of PW with other family processes to determine the degree to which these characteristics were related to each other. Child psychiatric disorders were estimated over the three waves as a function of PW at Wave 1 in order to examine the prospective association between PW and anxiety, MDD, ADHD and DBD. Generalized linear mixed model analyses were conducted in SAS according to the GLIMMIX procedure with a logistic link, a random intercept for each family, and a nested random intercept for each subject. The PROC GLIMMIX is a SAS procedure that can perform longitudinal logistic regression, taking into account the clustering of three time points within subjects, and subjects within families. To examine whether the influence of PW on the outcome changed over time, we tested for interactions between PW and wave. We treated wave as categorical in order to estimate odds

ratios quantifying the association between Wave 1 PW and the disorders at each wave separately. If the PW*wave interaction was not significant, it was subsequently removed from the model. The first model of each outcome included only PW and wave as predictors, and their interaction where significant. These models were then adjusted for potential confounders or moderators (site, age group, gender, poverty, maternal age, maternal education, single-parent family, parental coercive discipline, parental monitoring, parental psychopathology, familism and social support) at Wave 1. Odds ratios obtained from the models estimated the association of a one-standard deviation increase in PW and the presence of the respective outcome at each wave. Two-way interactions between PW and (i) site, (ii) gender and (iii) age group (or three-way interactions between PW*wave and (i) site, (ii) gender, and (iii) age group) were tested for each outcome in the adjusted models.

All analyses were conducted in SAS 9.3. All descriptive statistics took into account the sampling weights, strata and clustering within primary sampling units using the SAS survey procedures. Longitudinal models were weighted with the sampling weights and included random effects to control for repeated measures.

4. Results

4.1. Descriptive statistics

Table 3 presents descriptive statistics for all study variables and by site. In general, the prevalence of all psychiatric disorders decreased over the 3 study waves (with the exception of MDD, which increased by 0.14% from W2 to W3). On average, PW was high in this sample (M=2.46, range 0-3).

Table 4 shows Pearson correlations among family processes. There were significant correlations between most variables; however, the magnitude of the correlations was small to moderate.

Table 3. Descriptive statistics for the total sample, by site.

Variables	Total (n=2,491)		South Bronx (n=1,138)		Puerto Rico (n=1,353)		
	Percentage /Mean	SE	Percentage /Mean	SE	Percentage /Mean	SE	Test Statistic
Youth age W1(≥ 10 years), %	47.46	1.29	47.62	1,5	46,59	1,55	0.23[b]
Gender (female), %	49.10	1.14	49,11	1,32	48,92	1,52	0.01[b]
Poverty (below F.P.G), %	65.91	1.76	64,81	2,06	71,78	2,08	5.49[b*]
Mother's age, *M*	34.10	0.19	34,01	0,23	34,54	0,28	2.11[a]
Mother's education, %							87.11[b***]
<High school	42.81	1.76	46,42	2,06	24,07	2,39	–
High school	43.04	1.70	42,96	1,97	43,43	2,45	–
College+	14.15	1.21	10,62	1,33	32,5	2,52	–
Single-parent family, %	42.60	1.73	45,39	1,95	27,79	2,26	35.29[b***]
Parental warmth W1, *M*	2.46	0.01	2,47	0,01	2,43	0,01	4.37[a*]
Anxiety, % W1	6.19	0.56	5,91	0,65	7,63	0,84	2.67[b]
W2	4.76	0.68	4,86	0,81	4,2	0,68	0.41[b]
W3	3.83	0.53	4,09	0,62	2,53	0,59	3.10[b]
MDD, % W1	1.59	0.27	1,38	0,31	2,71	0,44	6.25[b*]
W2	1.06	0.29	1,05	0,34	1,1	0,29	0.01[b]
W3	1.20	0.28	1,12	0,33	1,59	0,42	0.77[b]
ADHD, % W1	7.54	0.83	7,48	0,97	7,85	0,85	0.08[b]
W2	6.86	0.68	7,16	0,8	5,31	0,67	3.18[b]
W3	5.57	0.76	5,57	0,9	5,55	0,8	0.0003[b]
DBD, % W1	5.91	0.67	5,84	0,78	6,24	0,76	0.13[b]
W2	5.65	0.51	5,87	0,6	4,57	0,63	2.15[b]
W3	5.35	0.60	5,73	0,7	3,4	0,71	4.89[b*]
Family processes w1							
Parental coercive discipline, *M*	0.50	0.02	0,49	0,02	0,5	0,02	0.08[a]
Parental monitoring, *M*	14.08	0.08	14,16	0,09	13,63	0,11	15.26[a***]
Parent psychopathology, %	29.37	1.38	28,02	1,61	36,52	1,94	11.31[b***]
Familism (parent), *M*	2.24	0.02	2,24	0,02	2,25	0,02	0.18[a]
Social support, *M*	1.18	0.02	1,06	0,02	1,8	0,02	761.39[a***]

Note: Weighted data. W1: Wave 1: W2, Wave 2; W3: Wave 3. SE: Standard error

[a] *F*-Value

[b] Rao'Scott Chi'Square; *p<.05; **p<.01; ***p<.001

Table 4. Correlations among family processes

Variable (at Wave 1)	1	2	3	4
1. Parental warmth				
2. Parental coercive Discipline	-.40***			
3. Parental monitoring	.30***	-.12***		
4. Familism (parent)	.05*	-.10***	-.08***	
5. Social support	.08***	-.03	.04*	.06***

Note: ***: p<0.001

4.2. Parental warmth and child psychiatric disorders

Table 5 shows the results of analyses predicting child psychiatric disorders (anxiety, MDD, ADHD and DBD) as a function of PW at Wave 1. We tested the association between PW at Wave 1 and psychiatric disorders over 3 waves, adjusted only for wave (not shown in Table 5). PW reduced the odds of having anxiety (OR=0.69, 95% CI [0.62-0.77]) and MDD (OR=0.47, 95% CI [0.40-0.55]) across the three waves. These associations did not vary significantly over time (Type III p=0.21 for anxiety and p=0.08 for MDD, interactions removed from the models) These associations remained significant after adjusting for demographics (site, age group, gender, SES, maternal age, maternal education and single-parent family) and family processes (parental coercive discipline, parental monitoring, parental psychopathology, familism and social support) shown in Table 5 (anxiety: (AOR=0.69, 95% CI [0.60-0.78]), MDD: (AOR=0.50, 95% CI [0.42-0.59])). To ease the interpretation of findings, we calculated the reciprocal of the AOR; a one SD decrease in Wave 1 PW was associated with 1.45 and 2 times greater odds of having anxiety and MDD, respectively.

The associations between PW and ADHD and DBD varied over time (Type III p=0.01 and p<0.0001 respectively for the PW*wave interaction term). For both

ADHD and DBD, the association between PW and the disorder decreased across waves. For ADHD: W1 (OR=0.38, 95% CI [0.33-0.44]), W2 (OR=0.43, 95% CI [0.37-0.49]), and W3 (OR=0.49, 95% CI [0.43-0.57]); For DBD: W1 (OR=0.26, 95% CI [0.22-0.31]), W2 (OR=0.35, 95% CI [0.30-0.41]), and W3 (OR=0.46, 95% CI [0.39-0.53]). These results remained similar after adjusting for demographics and family processes. For ADHD: W1 (AOR=0.36, 95% CI [0.31-0.42]), W2 (AOR=0.40, 95% CI [0.34-0.47]), and W3 (AOR=0.45, 95% CI [0.38-0.53]). For DBD: W1 (AOR=0.28, 95% CI [0.24-0.34]), W2 (AOR=0.38, 95% CI [0.32-0.45]), and W3 (AOR=0.48, 95% CI [0.41-0.56]). That is, a one SD decrease in Wave 1 PW was associated with 2.78, 2.50, and 2.22 times greater odds of having ADHD at Waves 1, 2, and 3, respectively. A one SD decrease in PW was associated with 3.57, 2.63 and 2.08 times greater odds of having DBD at Waves 1, 2, and 3 respectively.

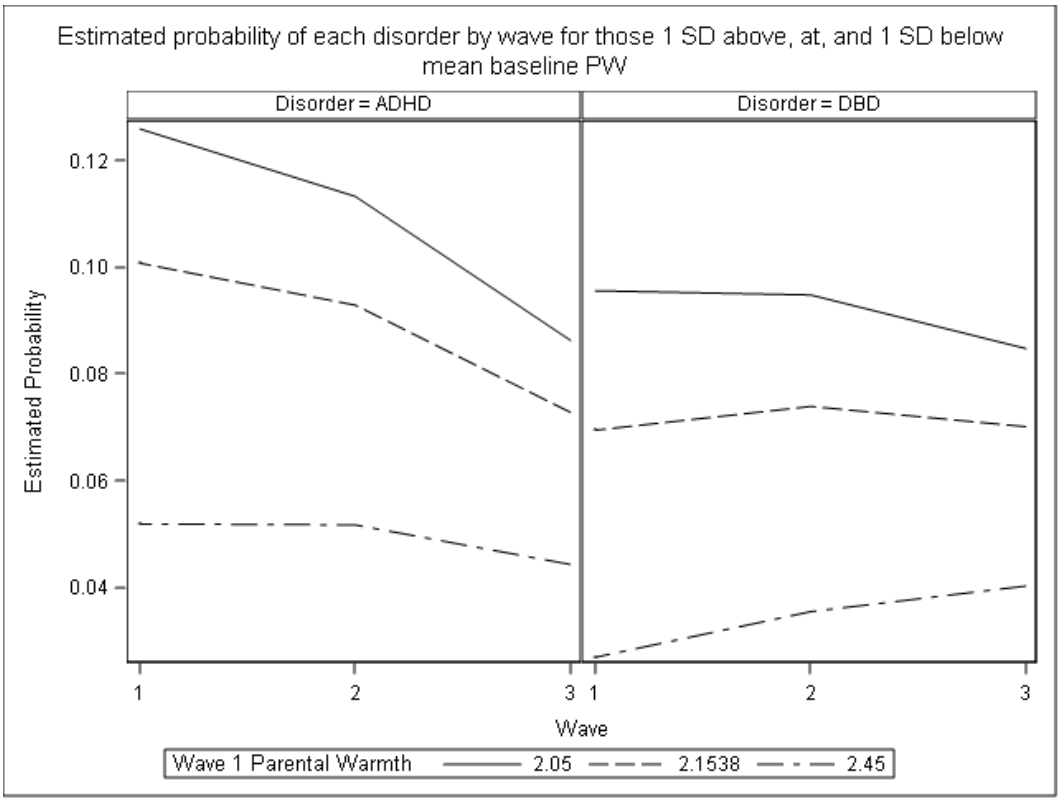
The PW*time interactions for ADHD and DBD are depicted for descriptive purposes in Figure 19, using PW values at the mean and 1 SD above and below the mean as prototypical values.

Table 5. PW (w1) and child psychiatric disorders (w1-w3): Random effects longitudinal models

	Child psychiatric disorders (w1-w3)							
	Child Anxiety		**Child MDD**		**Child ADHD**		**Child DBD**	
	AOR	95%CI	AOR	95%CI	AOR	95%CI	AOR	95%CI
PW, w1	0.69*	0.60-0.78	0.50*	0.42-0.59	0.36*	0.31-0.42	0.28*	0.24-0.34
PW, w2					0.40*	0.34-0.47	0.38*	0.32-0.45
PW, w3					0.45*	0.38-0.53	0.48*	0.41-0.56

Note. We only report by wave if the interaction PW*time is significant. AOR=adjusted odds ratio for other factors: site, age, gender, poverty, mother's age, mother's education, marital status, parent coercive discipline, parental monitoring, parental psychopathology, familism and social support; CI=confidence interval; PW, parental warmth; W1, Wave 1; W2, Wave 2; W3, Wave 3; *Significant results $p < 0.05$.

Figure 19. Interaction term PW*wave plot for ADHD and DBD for the total sample.



Note: SD: Standard Deviation. PW: Parental warmth.

4.3. Variations by gender, site, and age

We next tested two-way interactions between PW and (a) site, (b) gender, and (c) age group in the adjusted models of anxiety and MDD, and three-way interactions between PW*wave and (a) site, (b) gender, and (c) age group in the adjusted models of ADHD and DBD (Table 6). We found that the association between PW and MDD varied by site. Averaging across waves, the odds ratio for a 1-SD increase in PW and MDD were 0.31 (95% CI: 0.20-0.49) for Puerto Rico and 0.53 (95% CI: 0.44-0.64) for the Bronx (Type III p=0.0218 for the PW*site interaction). The effects of PW on reduced odds of MDD were therefore stronger in Puerto Rico than in the Bronx. No significant site interactions were found for anxiety, ADHD, or DBD (anxiety: PR: β=-0.48, SE=0.44, p=0.2735; F-value=1.20, Type III p=0.2735; ADHD: PR: β=-0.96,

SE=0.55, p=0.0822; F-value=1.07, Type III p=0.3017; DBD: PR: β=-0.99, SE=0.68, p=0.1478; F-value=2.04, Type III p=0.1530).

The association between PW and MDD varied by gender. Averaging across waves, the odds ratio for a 1-SD increase in PW and MDD were 0.60 (95% CI: 0.47-0.76) for males and 0.42 (95% CI: 0.33-0.53) for females (Type III p=0.0245 for the PW*gender interaction). The effects of PW on reduced odds of MDD are therefore stronger in females than in males.

The association between PW and ADHD at each wave varied by gender (Type III p=0.03 for the PW*time*gender interaction). Using models stratified by gender, the adjusted odds ratio for a 1-SD increase in PW and ADHD were 0.36 (95% CI: 0.30-0.44) at Wave 1, 0.48 (95% CI: 0.39-0.58) at Wave 2, and 0.47 (95% CI: 0.38-0.57) at Wave 3, for males. For females, the AOR's were 0.36 (95% CI: 0.28-0.47) at Wave 1, 0.28 (95% CI: 0.21-0.38) at Wave 2, and 0.41 (95% CI: 0.29-0.57) at Wave 3.

No significant gender interactions were found for anxiety or DBD. Anxiety (male: β=-0.26, SE=0.32, p=0.4085; F-value=0.68, Type III p=0.4085); DBD: (male: β=0.83, SE=0.49, p=0.0915; F-value=0.59, Type III p=0.5543).

No significant interactions between PW and age were found for any disorder Anxiety (10-15 years: β=0.19, SE=0.35, p=0.7245; F-value=1.05, Type III p=0.7245); MDD: (10-15 years: β=0.12, SE=0.56, p=0.8295; F-value=0.05, Type III p=0.8295); ADHD (10-15 years: β=-0.10, SE=0.38, p=0.7909; F-value=2.25, Type III p=0.1338); DBD: (10-15 years: β=-0.39, SE=0.45, p=0.3860; F-value=1.13, Type III p=0.2885).

Table 6. PW (W1) and Child Psychiatric Disorders (W1, W2, W3): Significant interactions with site and gender.

	Child MDD		Child ADHD					
	Averaged W1-W3		W1		W2		W3	
	AOR	95%CI	AOR	95%CI	AOR	95%CI	AOR	95%CI
Gender								
Male	0.60	0.47-0.76	0.36	0.30-0.44	0.48	0.39-0.58	0.47	0.38-0.57
Female	0.42	0.33-0.53	0.37	0.28-0.49	0.28	0.21-0.38	0.41	0.29-0.57
Site								
South Bronx	0.53	0.44-0.64						
Puerto Rico	0.31	0.20-0.49						

Note. AOR=adjusted odds ratio for other factors: age, poverty, mother's age, mother's education, marital status, parental coercive discipline, parental monitoring, parental psychopathology, familism and social support; CI=confidence interval; PW, parental warmth; W1, Wave 1; W2, Wave 2; W3, Wave 3. All significant results $p < 0.05$.

4.4. Sensitivity analyses

Alternative final models were run excluding those respondents who were not mother figures to verify whether the inclusion of caretakers who were not mothers could be biasing our results (N=2,300). As shown in Table 7, we found a nearly identical pattern of results to those reported in Table 5.

We also ran final models treating age as a continuous variable and the AOR and CI for PW were nearly identical to those reported in Table 5 (Anxiety AOR=0.69 (95% CI: 0.60-0.78), MMD AOR=0.50 (95% CI: 0.42-0.60): ADHD Wave 1: AOR=0.36 (95% CI: 0.30-0.41), ADHD Wave 2: AOR=0.40 (95% CI: 0.34-0.46), ADHD Wave 3: AOR=0.45 (95% CI: 0.38-0.53), DBD Wave 1: AOR=0.28 (95% CI: 0.24-0.34), DBD Wave 2: AOR=0.38 (95% CI: 0.32-0.45), DBD Wave 3: AOR=0.48 (95% CI: 0.41-0.56)). In addition, interactions between PW and continuous age were non-significant for anxiety (p=0.2387) and MDD (p=0.3030), and three-way interactions between PW, wave, and continuous age were non-significant for ADHD (p=0.0529) and DBD (p=0.1056).

Table 7. Sensitivity analyses, only including mother figures' respondents (N=2,300) PW (w1) and child psychiatric disorders (w1-w3): Random effects longitudinal models

	Child psychiatric disorders (w1-w3)							
	Child Anxiety		**Child MDD**		**Child ADHD**		**Child DBD**	
	AOR	95%CI	AOR	95%CI	AOR	95%CI	AOR	95%CI
PW, w1	0.69*	0.60-0.80	0.48*	0.40-0.58	0.35*	0.30-0.41	0.26*	0.22-0.32
PW, w2					0.39*	0.33-0.45	0.36*	0.30-0.43
PW, w3					0.43*	0.36-0.51	0.47*	0.39-0.55

Note. We only report by wave if the interaction PW*time is significant. AOR=adjusted odds ratio for other factors: site, age, gender, poverty, mother's age, mother's education, marital status, parent coercive discipline, parental monitoring, parental psychopathology, familism and social support; CI=confidence interval; PW, parental warmth; W1, Wave 1; W2, Wave 2; W3, Wave 3; *Significant results $p < .05$.

5. Discussion

Results from the present study indicated that PW is related to lower probability of a child presenting a psychiatric disorder (anxiety, MDD, ADHD and DBD) and such associations are independent of other parenting/family factors (parental coercive discipline, monitoring, psychopathology, familism, and parental social support). Parental warmth demonstrated a broad as opposed to disorder-specific effect, and also a probably clinically meaningful impact, as it was relevant at the disorder, rather than the symptom level like the majority of prior studies. Over the course of two subsequent years, the influence of PW on internalizing disorders remained steady while it weakened for externalizing disorders (ADHD and DBD). Parental warmth was more strongly associated with MDD for girls than for boys. The association of PW with MDD varied by sociocultural context, with stronger associations in Puerto Rico than in the South Bronx.

5.1. Why might PW relate to children's psychiatric disorders?

Having a warm parent may help anxious children to tolerate negative affect, promote emotion regulation, and, in turn, reduce their sensitivity to anxiety (Gottman, Katz, & Hooven, 1997). In relation to MDD, PW is likely to create a safe atmosphere that facilitates the child's sense of self-worth and increases self-confidence and efficacy (Rapee, 1997). For externalizing disorders including DBD and ADHD, it is likely that PW supports the internalization of parental rules and moral values and fosters the child's capacity to modulate arousal (Tronick, 1989) . Consequently, a child with a warm parent would be able to improve self-regulation of both external behavioral problems (e.g., inappropriate impulses, distractibility) and internal states (e.g., emotions, empathy) (McKee et al., 2008). However, there may be specific

subgroups for whom the protective effect of PW may not apply (e.g. children with psychopathic traits) (Chinchilla & Kosson, 2016). Overall, PW appears relevant across disorders possibly because it is essential to youths' development of appropriate emotion regulation skills, a central ability to both internalizing and externalizing psychopathology.

Our study also aimed to determine how the association between PW and child psychiatric disorders varied over time. The influence of PW on externalizing disorders was significant at all-time points, but weakened over the course of the two-year assessment period, consistent with the previous finding that the influence of PW on externalizing symptoms such as ADHD diminishes over time (Linares et al., 2010). Internalizing disorders, on the other hand, had a stable association with PW over the two-year course. These findings are relevant for parenting-based interventions. For example, it is possible that when targeting MDD and Anxiety, the emphasis of PW could occur only in the initial stages of the intervention, while interventions targeting externalizing disorders may need to continue working on parent-child relationship over time for their effects to hold.

The association between PW and MDD and ADHD was moderated by gender, with a stronger protective effect found for girls than for boys. Hale et al. (2008) found similar results for MDD. Another study with the same Puerto Rican sample documented that, compared to boys, girls were more protected against antisocial behaviors by a cultural-familial factor (familism; Morcillo et al., 2011). It is possible that girls are more relationship oriented, therefore placing greater emphasis on their relations to parents and being more sensitive to the influence of familial factors. It remains unclear, however, why this gender protective pattern would be restricted to MDD and ADHD and not extended to the other disorders examined.

Our findings support previous research that PW exerts a positive influence on children's development across different sociocultural contexts for all disorders examined with the exception of MDD. We advanced existing literature by studying the same ethnic group in different sociocultural contexts. We found that PW was more protective in relation to MDD in Puerto Rico than in the South Bronx. Our hypothesis here is that, compared to families in PR, those in the SB face more sociocultural challenges (e.g., higher levels of exposure to violence and discrimination (Ramos-Olazagasti, Shrout, Yoshikawa, Canino, & Bird, 2013)), and therefore the beneficial effect of PW may reach a ceiling effect in the SB as stressors accumulate. The only other study that was able to examine PW in individuals with similar backgrounds but different sociocultural contexts (Mexican families in Mexico and Latin American families in the US) (Varela et. al., 2009) found that maternal acceptance was related to more anxiety symptoms among the Latin American children while the protective effect was observed among Mexican children living in Mexico. In both ours and Varela's studies, PW was protective in the "home" context. The lower level of acculturation of Latin Americans in Varela's study, compared to our sample of Puerto Rican families in the SB, may explain differences in results among families living in a context where they were an ethnic minority. It is not clear why these differences would be restricted to one specific disorder (MDD). It is possible that MDD is more highly influenced by the sociocultural stressors present in contexts like the SB than other disorders, but at this point this is a speculative hypothesis that requires further examination.

The present study addresses a gap in the literature by suggesting that PW promotes Puerto Rican children's psychological adjustment over time by reducing the likelihood of developing anxiety, MDD, ADHD and DBD in two sociocultural contexts. The strength of the association between PW and ADHD and DBD diminished

over time, suggesting some specificity on youth internalizing versus externalizing disorders in relation to PW. The large sample size selected probabilistically, the longitudinal design, high compliance rate at follow-up and the use of a standardized diagnostic interview, are some of the study's main strengths. The present sample was exclusively focused on Puerto Rican youth and the findings may not generalize to other Hispanic populations; nevertheless, it provides information about a well-defined homogenous Hispanic subgroup at high risk for psychiatric disorders. We were unable to examine paternal influence as only a small proportion of informants were fathers (1.8%). Future studies should include a higher number of fathers as their parenting behaviors may be at least as influential as mothers' (Rohner et al., 2005). Reliability of some parenting practices, which were not PW, were not optimal. Finally, parents reported on both PW and psychiatric disorders; biases associated with social desirability and shared method variance is possible. Future research should include child report of psychiatric problems and other observational or behavioral measures of PW will be desirable.

Family-centered approaches offering education and support to parents can bolster parenting competence and warmth, which can improve outcomes for children (Stormshak et al., 2011). Examples are Parent-Child Interaction Therapy and the Triple P-Positive Parenting Program, which focuses on specific parenting factors, such as increasing parental warmth and reducing parental hostility (Thomas & Zimmer-Gembeck, 2007). Our results suggest that for children from one specific Hispanic subgroup, improvements in parental warmth may protect children against the development of different types of psychiatric disorders, independently of other relevant parenting behaviors. Increasing parental warmth may be more beneficial for girls than for boys. Overall, we corroborated the notion that parental warmth reduces the risk of

developing psychiatric disorders regardless of social context; however, in specific cases (e.g. MDD), it is possible that other risk factors may trump PW's effect.

STUDY 2

PARENTAL WARMTH AND SUBSTANCE USE AMONG PUERTO RICAN YOUTH

STUDY 2

1. Introduction

One of the most important public health concerns in the U.S. involves substance use (Johnston, O'Malley, & Bachman, 2003). By adolescence, 78.2% of U.S. adolescents had used alcohol, 15.1% satisfy criteria for lifetime abuse (Swendsen et al., 2012), 42.5% had used drugs and 16.4% abused them (Swendsen et al., 2012). Moreover gender differences have been described in the literature and seem ever more pronounced for Hispanic youth compared to their non-Hispanic White counterparts, with young Latina women displaying lower use rates than young males (Hughes et al., 1997). Also, rates of substance use disorders (SUD) vary by Hispanic descent, with Puerto Rican adults having the highest lifetime SUD (i.e., 3.12 times greater odds of having lifetime SUD than Cuban adults in the U.S.; 1.35 and 2.12 times greater odds than Mexican males and females respectively; and 1.58 and 1.78 times greater odds than Other Hispanic males and females respectively) (Alegría et al., 2007). The same pattern was observed for alcohol use. Alcohol dependence rates (Caetano et al., 2008) is higher for Puerto Ricans among all Hispanic groups, who also show higher alcohol dependence rates compared to men in the general U.S. population (Andrews-Chavez, Lee, Houser, Falcon, & Tucker, 2015; Caetano et al., 2008). As a matter of fact, high rates of alcohol consumption and drinking problems have been described as a great problem among Puerto Ricans both in New York and in Puerto Rico since the 80's (Canino, Bird, et al., 1993; Gordon, 1993). Nevertheless, adolescents in Puerto Rico show lower rates than those U.S. adolescents who self-identified as Puerto Rican background (Substance Abuse and Mental Health Services Administration, 1998). This scenario is striking, but what is extremely concerning is that individuals of Hispanic

background experience more barriers accessing treatment for SUD compared to the general population (Alegria et al., 2011). Therefore, it is important to understand protective and risk factors relevant for Hispanic families.

Adolescence is a critical period for the emergence of SUDs as early substance use (SU) and heavy drinking in the teen years may be a marker for SU problems, predicting SUD and drinking problems later in life (D'Amico, Ellickson, Collins, Martino, & Klein, 2005; Huurre et al., 2010; Norstrom & Pape, 2012). Although peer influence through modeling behavior has been proposed as a proximal predictor of SU (Andrews et al,. 2002; Borsari and Carey, 2001), this relationship has been questioned when taking into account parenting. For Hispanic youth, whose culture is strongly family-oriented (Villarreal, 2005), parenting practices may exert a central role on the development of substance problems. Although the importance of parenting (i.e., effective discipline, positive involvement and monitoring) for Puerto Rican youth has been previously reported, where effective parenting practices were negatively associated with youth problematic behaviour (Domenech, Franceschi, Sella, & Félix, 2013), prior research has been limited by cross-sectional designs without identifying the unique influence of the relationship between key parenting practices and youth SU.

Parental warmth (PW), characterized by "behaviors such as acceptance, affection, nurturance, support, love, interest and enthusiasm for children's endeavors and accomplishments" is considered a critical parenting dimension with profound influence on children's development (Rohner, Khaleque, & Cournoyer, 2005). There is evidence for the positive influence of PW on psychological adjustment, (Mckee et al., 2008; Wood et al., 2003). Conversely, an inverse association has been shown between PW and SUD (Rohner & Britner, 2002), in particular for alcohol use (Mogro-Wilson,

2008), smoking tobacco (Melby et al., 1993; Shelton et al., 2008), and marijuana (Lac, Alvaro, Crano, & Siegel, 2009).

The challenge with examining parenting practices, such as PW, is that other parental and contextual characteristics correlate with one another making it difficult to exert their unique contribution on adolescent outcomes. From the parental behavioral modeling perspective, it seems that youth growing up with substance abusing parents, whose positive parenting is diminished, are more prone to model their parents' substance abuse behaviors (Biederman, Faraone, Monuteaux, & Feighner, 2000; Foster & Kalil, 2007; Merikangas et al., 1998). Parental alcohol use is also correlated with greater levels of youth drinking (White, Johnson, & Buyske, 2000). Moreover, during periods of family instability, poorer parenting practices (e.g., lack of warmth, monitoring) may increase and as a consequence, youth externalizing symptoms may increase (Forman & Davies, 2003). Specifically, adolescents residing in single-parent and stepfamily households report higher levels of SU than those who live with both biological parents (Kierkus & Baer, 2002). However, the quality of the relationship and the overall household environment may be more important to the development of a youth SU problem (Crawford & Novak, 2008). For example, PW is positively correlated with social support (Mason et al., 1994) and parental monitoring (Fletcher, Steinberg, & Williams-Wheeler, 2004) and inversely related to coercive discipline (Lansford et al., 2014). There is strong evidence supporting the association between maltreatment during childhood and later alcohol and drug abuse (Center for Substance Abuse Treatment, 2000; K. Kendler et al., 2000). Other variables such as low household income (McMillan et al., 2010; Sareen et al., 2011) and low parental education (Mares, Lichtwarck-Aschoff, Burk, Van Der Vorst, & Engels, 2012) have traditionally been reported as risk factors for SU. Nevertheless, the latter may only be a

risk factor for SU problems in White youth rather than Hispanic youth (Bachman, O'Malley, Johnston, Schulenberg, & Wallace, 2011). This could be explained as an anticipatory socialization. It seems that youth with more educated parents may have plans to obtain themselves higher levels of education (i.e., attend college), increasing the likelihood of spending time with friends who already attend college (and may have started using substances). Importantly, PW should be considered in the context of a pivotal value in Hispanic culture, familism - a strong identification and attachment of individuals with their families, feelings of loyalty, reciprocity and solidarity among family members (Sabogal et al., 1987) -, which has been identified as a protective factor against SU in Hispanic adolescents (Marsiglia et al., 2009), in particular against drinking behavior (Ewing et al., 2015), marijuana and inhalants use (Ramirez et al., 2004).

Finally, individual characteristics such as psychiatric disorders correlate both with PW and SUD. Conduct and oppositional disorders (Kim-Cohen et al., 2003) or depressed mood in childhood (Crum et al., 2008) are associated with an increased risk of SU dependence later in life. Conversely, PW has been reported to reduce the odds of psychiatric disorders (anxiety, major depression, ADHD, disruptive behaviour disorders) (Santesteban-Echarri et al., 2017), which may be a mediator for friendship selection, limiting exposure to and engagement with SU children. (Biederman et al., 2000; de Vries et al., 2006; Shakya et al., 2012). Therefore, when studying the relationship between PW and SU it is crucial to take into account other potentially related family, parental and individual factors that might contribute to youth SU when considering the influence of PW.

1.1. Limitations of previous studies

To our knowledge, there is just one prior report of Puerto Rican youth's SU problems in two contexts, San Juan (PR) and New York City (NY) (Velez & Ungemack, 1989, 1995). Greater exposure to the New York City environment was related to greater drug involvement, especially among female migrants (Velez & Ungemack, 1989). A second analysis expands the findings introducing mediating variables. Parent-child relations were significantly associated with all three groups (New York Ricans –born and live in NY–; New York migrants –born in PR and migrated to NY–; and PR immigrants –born in NY and moved to PR–) when compared to PR islanders (reference group –born and live in PR–). The interaction term parent-child relationship and generational status was examined, but they found no significant results, meaning that the promotive effect of PW was similar regardless of context or migration status. However, this study presents several limitations. First, it did not use a probabilistic sample, but a convenience sample of youth in a school setting (15-18 years old). Second, the sample was recruited in the mid-1970s, so it is not a recent study and meaningful processes may have changed. Third, because of its cross-sectional design, how PW may influence youth SU over time remains unclear. Fourth, the parent-child relations measure had only a moderate level of reliability (α=0.57). Fifth, they assessed the use of illegal drugs as a whole, without differentiating whether the effects found were due to different substances. Finally, they did not control for variables such as physical abuse or parental psychopathology, known for having an impact on later consumption; nor relevant variables for Hispanic populations such as familism. Thus, we expand previous knowledge on the literature by improving those limitations.

1.2. The current study

Among Puerto Ricans, is PW associated with low SU and substance use behaviors, similar to their non-Hispanic counterparts? In the present study, the associations between PW and alcohol use, non-alcohol SU (drugs, tobacco and marijuana), and any youth SU at each wave were examined over time in a sample of 1,085 Puerto Rican youth living in two different sites. This study expands on previous analyses by testing the association between PW and different substances over time in a homogenous Hispanic group in two contexts. We hypothesized that youth from families with higher levels of PW, independently of other parental factors, would present lower rates of alcohol use, non-alcohol SU and any SU over the course of three years. We also tested the stability of the associations between PW and the different types of SU over time and hypothesized that there would be site and gender differences.

2. Objectives

To prospectively examine (1) the unique relationship of PW and youth alcohol use, non-alcohol substance use (SU) (drugs, tobacco and marijuana), and any SU over three years among Puerto Rican youth; (2) whether youth from families with higher levels of PW, independently of other parental factors, would present lower levels of non- alcohol SU and any SU over the course of three years; (3) due to the lack of previous research regarding PW and alcohol and high rates of consumption of alcohol among this population, and we cast doubt about the role of PW over alcohol.

3. Methods

3.1. Participants

Study procedures and measures are detailed elsewhere (Bird et al., 2006a; Bird et al., 2006b). The Boricua Youth Study is a representative probability sample of 2,491 Puerto Rican children (age 5-13 at Wave 1) in two sites: South Bronx in New York and in the standard metropolitan area of San Juan and Caguas, Puerto Rico. Youth were included in the study if at least one caretaker self-identified as being of Puerto Rican background and were followed over three waves of data assessment one year apart (2000-2004). A maximum of three children per household could participate, randomly selected if more eligible children were living in the household. Participation rates were 80.5% in SB and 88.7% in PR and the retention rate after three waves was over 85%. Youth who at Wave 1 were 10 years old or older were included in this analysis (n=1,271).

The study was approved by the Institutional Review Boards at the New York State Psychiatric Institute and the University of Puerto Rico Medical School and all participants provided informed consent to participate in the study.

3.2. Measures

Youth Substance Use. Questions from the lifetime substance abuse section of the *Diagnostic Interview Schedule for Children-IV* (DISC-IV) (Shaffer et al., 2000) and its Spanish version (Bravo et al., 2001) assessed youth SU. A combination of both parent and youth report was used. Parent or youth reported past year use of substances at each wave was considered as SU ("1=yes"; "0=no"). Three dichotomous variables were created for each wave: 1) *Alcohol Use*. Defined as having ever drunk a full can or bottle of beer, a glass of wine or wine cooler, a shot of distilled spirits, or a mixed drink with distilled spirits in it; 2) *Non-Alcohol Substance Use*. Defined as having ever smoked a cigarette, used snuff or chewing tobacco, used marijuana or used other illicit

drugs to get high (stimulants or amphetamines, sedatives or tranquilizers, cocaine or crack, heroin, opiates, PCP -or "angel dust"-, hallucinogens, amyl nitrite -or "poppers", "whippets", "rush"-, inhalants -such as glue, paint or cleaning fluid- and non-prescribed steroids); and 3) *Any Substance Use*. Defined as having ever used any of the substances described in 1 and 2 above.

Parental Warmth. Measured through parental responses to 13 items from an abbreviated version of the *Hudson's Index of Parental Attitude's* (Hudson, 1982) at Wave 1. Response options were in a 4-point Likert scale (ranging from "not at all/never" to "a lot/very often"). The measure reflects on the overall quality of the caregiver's attitude toward the youth and comprises items about closeness (e.g., "How much do you enjoy being with him/her?"), trust (e.g., "How much can you really trust him/her?"), understanding (e.g., "To what extent does he/she understand you?"), and feelings between the caregiver and the youth (e.g., "How often do you feel very angry towards him/her?"). The PW score is the mean of the items, and higher scores indicate higher PW (α=0.83). Eighty-nine percent of respondents were biological mothers; the remainder were grandmothers (4.5%), adoptive or stepmothers (2.8%), and biological fathers (1.8%). Others (1.9%) were adult siblings, aunts, or foster mothers.

Parental Psychopathology Factors. Parental lifetime emotional problems were assessed through parental reports on the *Family History Screen for Epidemiologic Studies* (FHS) (Lish et al., 1995), a 17-item screening scale (*kappa* $\geq$ 0.56 for test–retest reliability of self-reports; Weissman et al., 2000). Three dichotomous variables were created: 1) *Parental psychopathology*. Coded as "yes=1" if one or more of six items in the FHS covering depressive symptoms, suicide attempts, nervous attacks, and

other emotional problems, received a positive response; 2) *Parent Alcohol Misuse*. Coded as "yes=1" based on parent' responses to the drinking problems item in the FHS; 3) *Parent Drug Misuse*. Coded as "yes=1" based on parent' responses to the drug problems item in the FHS.

Familism. Assessed through parental responses to an abbreviated adapted version of the *Sabogal Familism Scale* (Sabogal et al., 1987). It is a 4-point Likert scale with 10 items. It assesses one's values and attitudes related to familial obligations, support from family and family as referents (α=0.74).

Youth lifetime abuse indicators. 1) Physical abuse was assessed through youth responses to four dichotomous items. Physical abuse was considered present if there was a positive response to having ever been hit by a parent/caregiver with an object, or ever having been hit by a parent/caregiver with a fist, kicked hard, being beaten up very hard, or purposely injured at least once. 2) Verbal and psychological abuse was assessed through youth responses to two dichotomous items (i.e., *Has your caretaker/parent sworn or coursed at you*? And, *Has your caretaker/parent told you that you would be sent away or kicked out of the house?*). Measures were derived from the child version of the *Parent-Child Conflict Tactics Scale* (Straus, Hamby, Finkelhor, Moore, & Runyan, 1998) and its Spanish version (Goodman et al., 1998) (α=0.68).

Youth Psychiatric Disorders. The *Diagnostic Interview Schedule for Children-IV* (DISC-IV) (Shaffer et al., 2000) and its Spanish version (Bravo et al., 2001) was used to assess psychiatric disorders (Social Phobia, Generalized Anxiety, Separation Anxiety, Panic Disorder, Post-traumatic Stress Disorder, Depressive Disorders,

Attention Deficit Hyperactivity Disorder, Conduct Disorder and Oppositional Defiant Disorder) at Wave 1. A dichotomous variable was created: "0=no disorder", "1=presence of any disorder" at Wave 1 and was used as a covariate in the regression models.

Demographics. Demographic measures included: sociocultural context (site), youth gender, youth age, socioeconomic status (below/above Federal Poverty Level), maternal age, maternal education (less than high school, high school and college/above) and marital status (single vs. two-parent family).

3.3. Analyses

Percentages or means and 95% confidence intervals were calculated for each variable, and correlations among PW and other family and parenting variables were examined. Youth SU was estimated over the three waves of measurement as a function of PW at Wave 1 in order to examine the prospective association between PW and alcohol use, non-alcohol SU and any SU. Generalized linear mixed model analyses were conducted in SAS 9.4. according to the GLIMMIX procedure with a logistic link, a random intercept for each family, and a nested random intercept for each subject. To examine whether the influence of PW on the outcome changed over the three waves, we tested the interaction term for Wave 1 PW*time. If the PW*time interaction was statistically non-significant, it was subsequently removed from the model. The first model for each outcome included only PW and time as predictors (Model 1). These models were then adjusted for potential confounders (site, gender, poverty, maternal age, maternal education, single-parent family, parent psychopathology, parent alcohol abuse, parent drug abuse, familism, verbal/psychological abuse, physical abuse and

other youth disorders) at Wave 1 (Model 2). Odds ratios obtained from the models estimated the association of a one-standard deviation increase in PW and the presence of the respective outcome at each wave. Two-way interactions between PW and (a) site, (b) gender, and (c) age were also tested for each outcome in the adjusted models (Model 2).

All analyses were adjusted for differences the selection probability resulting from the sample design (strata and clustering) and were weighted to reflect the 2000 census. Longitudinal models also included random effects to accounting for repeated measures.

4. Results

4.1. Descriptive statistics

Table 8 presents descriptive statistics for all study variables. The prevalence of all outcome variables (alcohol use, non-alcohol SU, and any SU) increased over 3 years. Rates of past year non-alcohol SU were higher than those of alcohol use at every wave.

Table 8. Descriptive statistics by site

Variables (at Wave 1)	Total (n=1,271) %/Mean	Total (n=1,271) SE	SB (n=598) %/Mean	SB (n=598) SE	PR (n=673) %/Mean	PR (n=673) SE	Test Statistic
Gender (female), *%*	49.89	1.47	50.10	1.70	48.71	1.93	0.29[b]
Age, *M*	11.64	0.05	11.57	0.06	12.05	0.05	37.76[a***]
Poverty (below F.P.L), *%*	67.21	2.13	66.53	2.48	70.77	2.49	1.40[b]
Maternal age, *M*	36.3	0.30	36.14	0.35	37.11	0.29	4.51[a*]
Maternal education, *%*							66.57[b***]
< High school	42.13	2.24	45.79	2.62	22.66	2.96	–
High school	43.51	2.05	43.67	2.37	42.66	3.01	–
College +	14.36	1.48	10.54	1.62	34.68	3.08	–
Single parent, *%*	45.99	2.12	49.11	2.42	29.06	2.13	41.79[b***]
Parent psychopathology, *%*	32.67	1.86	31.81	2.17	37.26	2.20	3.08[b]
Parent alcohol abuse, *%*	7.71	0.88	6.96	1.01	11.75	1.43	7.78[b**]
Parent drug abuse, *%*	11.18	1.18	11.39	1.38	10.03	1.30	0.52[b]
Parent coercive discipline, *M*	0.46	0.02	0.46	0.03	0.47	0.02	0.14[a]
Parent support, *M*	1.17	0.02	1.06	0.02	1.79	0.02	667.04[a***]
Parental familism, *M*	2.25	0.02	2.26	0.02	2.24	0.02	0.50[a]
Parental monitoring, *M*	13.34	0.11	13.37	0.12	13.17	0.12	1.39[a]
Youth physical abuse, *%*	13.94	1.11	14.56	1.28	10.55	1.26	5.01[b*]
Youth verbal/psychological abuse, *%*	23.06	1.43	25.65	1.64	8.96	1.22	61.97[b***]
Other youth disorders, *%*	13.71	1.36	13.53	1.59	14.69	1.31	0.31[b]
PW, *M*							–
W1	2.45	0.02	2.46	0.02	2.42	0.02	2.27[a]
W2	2.47	0.02	2.47	0.02	2.46	0.02	0.25[a]
W3	2.47	0.02	2.47	0.02	2.47	0.02	0.02[a]
Any SU, *%*							–
W1	4.13	0.62	4.32	0.73	3.17	0.75	1.15[b]
W2	5.73	0.85	6.12	1.01	3.69	0.80	3.46[b]
W3	8.70	1.11	8.85	1.31	7.96	1.32	0.22[b]
Non-alcohol SU, *%*							–
W1	3.87	0.60	4.02	0.70	3.04	0.73	0.90[b]
W2	4.48	0.73	4.83	0.90	2.68	0.63	4.13[b*]
W3	6.99	1.05	7.56	1.25	4.11	0.97	4.63[b*]
Alcohol use, *%*							–
W1	0.32	0.18	0.30	0.21	0.46	0.31	0,19[b]
W2	2.55	0.69	2.66	0.82	1.96	0.67	0.44[b]
W3	3.57	0.68	3.11	0.76	5.91	1.22	4.39[b*]

Note: Weighted data. W1: Wave 1: W2, Wave 2; W3: Wave 3. M: Mean; SE: Standard error; SB: The South Bronx; PR: Puerto Rico; F.P.L: Federal Poverty Level; SU: Substance use; PW: Parental warmth; [a] *F*-Value; [b] Rao-Scott Chi-Square; *$p < 0.05$; **$p < 0.01$; ***$p < 0.001$

Table 9 shows Pearson correlations among family processes (parental warmth, parental coercive discipline, parental monitoring, familism and social support). There were statistically significant correlations between PW and most variables; however, the magnitude of the correlations was small to moderate.

Table 9. Correlations among family processes

Variable (at Wave 1)	1	2	3	4
1. Parental warmth				
2. Parental coercive discipline	-0.38***			
3. Parental monitoring	0.31***	-0.17***		
4. Familism (parent)	0.07*	-0.13***	-0.02	
5. Social support	0.08**	-0.03	0.04	0.05

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

4.2. Parental warmth and substance use problems

Table 10 presents the association between PW at Wave 1 and alcohol use, non-alcohol SU and any SU over three waves (Model 1). PW at Wave 1 was inversely associated with alcohol use, non-alcohol SU and any SU over the course of three study waves. When models were adjusted (Model 2) for demographics (site, gender, age, SES, maternal age, maternal education and single-parent family) parent factors (parental psychopathology, parent alcohol abuse, parent drug use and familism) and individual factors (verbal/psychological abuse, physical abuse and other youth disorders at Wave 1), PW remained significantly associated with lower levels of non-alcohol SU (AOR=0.77, 95% CI: 0.62-0.96) and any SU (AOR=0.81, 95% CI: 0.67-0.99) over the three study waves. The association of PW and alcohol was no longer significant after adjusting for confounders.

Table 10. PW (W1) and child substance use (W1-W3): Random effects longitudinal models

		Model 1[a]		Model 2[b]	
		OR	95% CI	AOR	95% CI
Any SU					
	PW, W1	**0.65***	0.56-0.75	**0.81***	0.67-0.99
Non-alcohol SU					
	PW, W1	**0.61***	0.52-0.71	**0.77***	0.62-0.96
Alcohol use					
	PW, W1	**0.79***	0.63-0.99	0.86	0.58-1.27

Note: PW: Parental warmth; SU: Substance use; W1: Wave 1; W3: Wave 3. OR: odds ratio. AOR: adjusted odds ratio. CI: confidence interval. *Significant results $p < 0.05$.

Note: [a]Unadjusted model (adjusted only for wave). [b]Adjusted model for site, youth gender, youth age, poverty, mother's age, mother's education, marital status, parent psychopathology, parent alcohol abuse, parent drug abuse, verbal/psychological abuse, physical abuse, parent discipline, parent support, parental familism, parental monitoring and other youth disorders at Wave 1.

4.3. Variations over time, by site, gender and age

Results did not vary over time for any outcome of interest as the interaction terms between PW*time were not significant for non-alcohol SU (W2: β=-0.19, SE=0.37, p=0.6036; W3: β=-0.59, SE=0.34, p=0.0857; F-value=1.63, Type III p=0.1955); any SU (W2: β=-0.26, SE=0.38, p=0.4965; W3: β=-0.57, SE=0.36, p=0.1116; F-value=1.33, Type III p=0.2636); or alcohol use (W2: β=-0.75, SE=1.62, p=0.6430; W3: β=-0.87, SE=1.63, p=0.5946; F-value=0.14, Type III p=0.8653). These results suggest that the strength of the association between PW and non-alcohol SU and any SU remains stable over time.

Moreover, results did not vary by site, for any outcome of interest as the interaction term between PW*site was not significant for non-alcohol SU (PR: β=-0.30, SE=0.72, p=0.6763; F-value=0.17, Type III p=0.6763); any SU (PR: β=-0.06, SE=0.61, p=0.9152; F-value=0.01, Type III p=0.9152); or alcohol use (PR: β=-0.05, SE=0.95, p=0.9590; F-value=0.00, Type III p = 0.9590).

Results did not vary by gender either, for any outcome of interest as the interaction term between PW*gender was not significant for non-alcohol SU (male: *ß*=-0.04, SE=0.46, *p*=0.9265; F-value=0.01, Type III *p*=0.9265); any SU (male: *ß*=0.04, SE=0.41, *p*=0.9310; F-value=0.01, Type III *p*=0.9310) or alcohol use (male: *ß*=0.41, SE=0.80, *p*=0.6064; F-value=0.27, Type III *p*=0.6064).

Finally, results did not vary by age for any outcome of interest as the interaction term between PW*age was not significant for non-alcohol SU (*ß*=-0.23, SE=0.22, *p*=0.2796; F-value=1.17, Type III *p*=0.2796); any SU (*ß*=-0.27, SE=0.20, *p*=0.1639; F-value=1.94, Type III *p*=0.1639) or alcohol use (*ß*=-0.66, SE=0.42, *p*=0.1207; F-value=2.41, Type III *p*=0.1207).

4.4. Sensitivity analyses

Alternative final models were run excluding those respondents who were not mother figures to verify whether the inclusion of caretakers who were not a mother could be biasing our results (N=1,161). As shown in Table 11, we found a nearly identical pattern of results to those reported in Table 10.

Table 11. Sensitivity analyses excluding non-mother figures (N=1,152), PW (W1) and child substance use (W1-W3): Random effects longitudinal models

		Model 1[a]		Model 2[b]	
		OR	95% CI	AOR	95% CI
Any SU					
	PW, W1	**0.67***	0.57-0.78	**0.80***	0.65-0.98
Non-alcohol SU					
	PW, W1	**0.63***	0.53-0.74	**0.75***	0.60-0.94
Alcohol use					
	PW, W1	0.80	0.63-1.01	0.85	0.58-1.27

Note: PW: Parental warmth; SU: Substance use; W1: Wave 1; W3: Wave 3. OR: odds ratio. AOR: adjusted odds ratio. CI: confidence interval. *Significant results $p < 0.05$.

Note: [a]Unadjusted model (adjusted only for wave). [b]Adjusted model for site, youth gender, youth age, poverty, mother's age, mother's education, marital status, parent psychopathology, parent alcohol abuse, parent drug abuse, verbal/psychological abuse, physical abuse, parent discipline, parent support, parental familism, parental monitoring and other youth disorders at Wave 1.

5. Discussion

Key findings from the present study indicated that PW is related to a lower probability of non-alcohol SU and any SU among Puerto Rican youth. The association is independent of other demographic, parenting/family (parent psychopathology, parent alcohol abuse, parent drug abuse, familism) and individual factors (verbal/psychological abuse, physical abuse and other youth disorders at Wave 1). Over the course of two subsequent years, the influence of PW on non-alcohol SU and any SU remained steady. However, the association of PW and alcohol use was no longer significant after controlling for demographics, parental and individual factors.

There has been a lack of recent epidemiological studies regarding drinking behaviors and related consequences for Puerto Rico and the available research dates back 15 years or more (Canino et al., 1987; Rios-Bedoya & Gallo, 2003; Warner, Canino, & Colón, 2001). In the current study, prevalence of past year alcohol and substance use was lower than previously reported in other studies of Puerto Rican adolescents (Warner et al., 2001) what can be explained by developmental differences

(ages in prior studies were 15-18 and our sample was 10-14 years old at Wave 1 and maximum of 12-17 years old at Wave 3). Therefore, it is plausible that the current findings represent the younger age of our sample, less likely to having started drinking or using substances.

5.1. Why might PW relate to youth's SU problems?

Our main finding, that higher levels of initial PW are inversely associated with non-alcohol SU and any SU, even after adjusting for other familiar factors relevant for Hispanic populations, such as familism, is consistent with previous studies (Lac et al., 2009; Melby et al., 1993; Ramirez et al., 2004; Rohner & Britner, 2002). There were no time, gender, age or site differences for those results. Having a warm parent may help to increase youth self-disclosure. Thus, a strong parent–child relationship (warmth) and communication between the two dyads may increase youth disclosure. This disclosure may improve parent knowledge of their children's activities and whereabouts (parent monitoring). Furthermore, a close attachment between the parent and adolescent may help develop more efficient self-regulation and less time spent with deviant peers (Brook et al., 1997). Both disclosure and less time spent with deviant friends may ultimately be related to less substance use behaviors.

5.2. Why PW might not be related to alcohol use among Puerto Rican's youth?

The novelty of our results resides in not finding an association between PW and alcohol use once we adjusted for demographics, family and individual factors. This finding contradicts previous studies reporting an association between PW and a reduction of alcohol consumption (Mogro-Wilson, 2008; Ronald P Rohner & Britner, 2002). However, this result is not surprising given Puerto Ricans' alcohol history. The

only study that assessed PW and SU among Puerto Ricans (Velez & Ungemack, 1995), did not test for alcohol directly. Thus, it seems that the promotive effect of PW by reducing SU may differ by substance and across racial/ethnic subgroups.

Despite living in a family not supporting drinking, it seems that the influence of one's social network as a whole may be more important than the part consisting of close individuals who do not promote drinking (i.e., parents). Zywiak et al., (2002) found that support for drinking from people in the close network (4 people) was not related to drinking. However, what seems more plausible in this population, is that family, close social networks and peers may be comprised of members that support alcohol use or at least would not interfere if youth consume (Hunter-Reel et al., 2010). Given the framework of the Hispanic family, high levels of ethnic social relations with other alcohol-users from family and community members, may negatively affect youth behavior problems. Social learning theory postulates that parental modeling is the primary mechanism through which behaviors are transmitted to children (Foster & Kalil, 2007). Although this theory may not adequately explain illicit drug users, as they are more prone to try to hide use from children, it may be a good explanation for parents who drink alcohol. Also, in some cultures, drinking with family members is a social event and refusal to drink is viewed as a rejection of the other family members (Amodeo et al., 1997). This tradition normalizes drinking, and likely affects other mechanisms such as attitudes toward drinking (Caetano & Clark, 1999). In fact, having liberal drinking norms and having positive attitudes toward drinking are risk factors towards drinking among Puerto Ricans (Caetano et al., 2016). Thus, PW may not reduce the odds of this behavior since it is considered a normative behavior. Finally, because Puerto Ricans had different historical traditions regarding alcohol (e.g., no history of prohibition in Puerto Rico and police enforcement of public drunkenness)

(Caetano et al., 2016). Therefore, alcohol may be more available among this population, increasing the probability of consumption (Van den Eijnden, Van de Mheen, Vet, & Vermulst, 2011). Alcohol may also be more accessible in the households, which increases in the trajectories of adolescent alcohol use (Komro, Maldonado-Molina, Tobler, Bonds, & Muller, 2007).

5.3. Strengths and limitations

The large sample of the present study selected probabilistically, the longitudinal design, and high compliance rate at follow-ups are some of the study's main strengths. Some limitations also apply. Paternal warmth should be studied, as it may be a better predictor than maternal warmth of offspring's behavior, including substance abuse (Campo & Rohner, 1992; Khaleque & Rohner, 2011; Rohner & Veneziano, 2001). Due to our small sample of father respondents (1.8%) we could not test both in separate analyses. Also, although we included 2 sources of information for SU problems (parent and youth report) self-report of SU measures may be subject to bias due to social desirability or inaccurate recall, and parent report could represent lower rates, as they are probably unaware of the SU behaviors of the youth. Finally, our sample was exclusively focused on Puerto Rican youth and the results may not generalize to other Hispanic populations. We did find evidence though, that the associations here described are present in two different contexts. Despite these limitations, this is a prospective study of a large community sample, which provides information about a well-defined homogenous Hispanic subgroup at high risk for SU problems in two sociocultural contexts.

6. Conclusions and future directions

The present study addresses a gap in the literature by suggesting that PW reduces the odds of non-alcohol SU and any SU among Puerto Rican youth in two sociocultural contexts. Furthermore, it casts doubt on the postulate that PW is related to all substance use, as ethnic differences may arise regarding alcohol consumption. Considering that Puerto Rican adults have the highest rates of SU among the Hispanic population (Alegria et al., 2007), early preventive interventions promoting PW should be considered to reduce SU problems among adolescents in this population. The strength of the association between PW and non-alcohol SU and any SU was stable over time, suggesting the benefits of interventions may last for a long time. Parent interventions may bolster positive parenting which in turn results in improved outcomes for adolescents (Forgatch et al., 2005; Stormshak et al., 2011) and may serve as a mediator for friendship selection by limiting the exposure and engagement with substance users peers (Biederman et al., 2000; de Vries et al., 2006; Shakya et al., 2012). Benefits of parent interventions may even be further extended to their children's friends. Adolescents whose friends' mothers were high in warmth and control, had lower levels of alcohol use, cigarette smoking, marijuana use and binge drinking (Shakya et al., 2012). Some treatments, such as the Parent-Child Interaction Therapy and the Triple P-Positive Parenting Program improved PW and decreased parental hostility (Thomas & Zimmer-Gembeck, 2007). However, prevention programs should be integrated into the school setting. Traditional prevention programs may not be effective with ethnic/culturally diverse sub-groups (Terrell, 1993) because parents from Hispanic communities may prefer counseling for youth in the school context (James, 1997) and in their community (Prado & Pantin, 2011; Guillermo Prado et al., 2012).

Nevertheless, due to the tradition of alcohol use among this specific Hispanic population, future research may benefit from addressing parental drinking conduct, in order to decrease the negative modeling behaviors they may exert toward their children. Reduction in parents' drinking behaviors may foster alcohol-specific parenting practices, and therefore decrease youths' alcohol use (Van Zundert et al., 2006). If alcohol drinking is such a normative behavior among Puerto Ricans, information about the influence their own drinking behavior has on their children's may be important. Also, educating parents on the positive effect of maintaining strict rules regarding drinking may show a reduction in their children's drinking behavior over time (Mares et al., 2012). In order to target and tailor interventions appropriately, future research should explore the realities and challenges faced by Puerto Rican families that could help understand ways in which positive parenting behaviors could be increased.

STUDY 3

FAMILY STRUCTURE, TRANSITIONS AND PSYCHIATRIC DISORDERS AMONG PUERTO RICAN CHILDREN

STUDY 3

1. Introduction

Changes in family structure can be important influences in a child's life. In the past few decades, family arrangements in the United States have changed dramatically. Early studies on the topic mostly included only two types of families: two-parent and single-parent families. The "single-parent" category of these early studies included non-differentiated family structures (e.g., single parents and also cohabiting parents who never married) without taking into account the nature of relationships of the adults in the household (Manning & Lichter, 1996). More recently, single parents sharing their lives with a romantic partner have received their own family structure category as cohabiting parents. Despite the decrease in marriages and the increase in divorces, nationally, the rate of single motherhood has remained constant at 9% since 1992 (Vespa et al., 2013). Lately, it has been estimated that cohabitation is the family structure of 18% of the U.S. population (Kennedy & Bumpass, 2008). Therefore, non-married family structures may be playing an increasingly important role in the lives of Americans.

There are complexities involved in studying family structure and its impact on child development, specifically, on the development of psychiatric disorders by children, which can be manifested either as emotional suffering (internalizing problems) or problematic overt behaviors (externalizing problems). Attempts to study how different family arrangements may impact children have been made. Cohabitation - unmarried parents sharing residence with children, to the extent that it may imply a more tenuous relationship than marriage, may represent a higher risk for child development when compared to marriage (Manning & Lamb, 2003). Important

implications of family structure on child development can be missed if the presence of a non-biological relationship (step-parents, as opposed to biological parents) with parental figures is not taken into account (Bachman, Coley, & Carrano, 2012; Manning & Brown, 2006). Although some studies have described that children from single-parent families and cohabiting families may fare worse compared to those from a married family (Fomby & Estacion, 2011; Manning & Lamb, 2003; Musick & Meier, 2010); there is evidence that children living in a biological married-parent family seem to fare better than those living in a married step-parent family (Coleman, Ganong, & Fine, 2000). In a study taking cohabitation into account within step-parents families, children in cohabiting step-parent families had higher levels of behavior problems than those in married step-parent families (Coleman et al., 2000). Considering these results without a context can lead to simplistic and deluded conclusions as family dynamics are complex and child problems may be the result of multiple family factors. These results indicate that the number and/or type of biological relationship with the child and the legal living arrangement of the adults sharing childrearing could have been related to child development.

However, relying on an indicator or family structure at a single point in time to draw conclusions about child development and well-being has considerable limitations. Family structure is not static. For instance, when studying a step-parent family, there are a number of ways the step-parent family may have been formed; it could be that a single-parent started a relationship, or a married couple divorced and one of the parental figures starts a new relationship. Thus, to capture the dynamic nature of family structures, it is important to also consider family transitions as they may be very relevant to understanding child outcomes (Brown, 2006; Fomby & Cherlin, 2007; Schroeder et al., 2010).

With the changes in American families in previous decades, family transitions have become more frequent. For example, 20% of the marriages dissolve after five years (Cherlin, 2010). Also, 54% of women who divorce will remarry within five years, and after the second marriage, union dissolutions are even more frequent. Of these women who experience union dissolution after the second marriage, 67% of single mothers start cohabitating with another partner and 50% of them marry afterwards (Bramlett & Moshner, 2002; Kennedy & Bumpass, 2008). Moreover, cohabiting couples have one of the most unstable family structures (Bumpass & Lu, 2000). The probability of union dissolution in cohabiting couples is almost twice as high as that of married couples, with 39% of those relationships dissolving within three years (Tienda & Mitchell, 2006). Thus, children in cohabiting families are more likely to experience family transitions (Landale, Thomas, & Van Hook, 2011; Raley & Wildsmith, 2004). Furthermore, as cohabitation is more frequent among low-income families, it is estimated that 10% of low-income children may have experienced three or more transitions by the age of eight (Bachman, Coley, & Carrano, 2011; Federal Interagency Forum on Child and Family Statistics, 2013).

The instability hypothesis states that family transitions are stressful and detrimental, especially for children (Hill, Yeung, & Duncan, 2001). It has been suggested that each transition worsens child outcomes, possibly increasing the odds of internalizing or externalizing problems (Amato, 2003; Bachman et al., 2011, 2012; Brown, 2006; Cavanagh & Fomby, 2012; Cavanagh & Huston, 2008; Fomby & Cherlin, 2007; Osborne & McLanahan, 2007; Wu & Thomson, 2001). Studies have shown that children living with a single parent all their lives and a stable two-parent family had better outcomes (including school performance) than those who underwent family transitions. Suggesting the relevance of understanding family transitions,

children from stable single-parent households did not fare worse than their counterparts living in a stable two-parent family (Cherlin, 2009; Najman et al., 1997; Yang & Kramer, 2012).

Despite evidence supporting the instability hypothesis, a few studies have shown mixed results. For example, transitioning from a single-parent family to a two-parent family or transitioning out of a step-parent family was not associated with negative child outcomes (Brown, 2010; Waldfogel, Craigie, & Brooks-Gunn, 2010). Furthermore, child outcomes were no worse when children underwent multiple family transitions compared with outcomes among those children who experienced fewer or just one transition (Carlson & Corcoran, 2001; Kurdek, Fine, & Sinclair, 1994; Sun & Li, 2008). Those who examined the timing of the transition (how recently the transition happened) concluded that only recent transitions when a two-parent family was dissolved were robustly associated with higher levels of child impaired functioning (Bachman et al., 2011).

This divergence in results may indicate that other factors are also playing a role. For instance, a transition from a single-parent to a two-parent family may not be detrimental if the child finds a new support figure or the family improves its socioeconomic situation; similarly, transitioning from a two-parent family to a single-parent family may not be disadvantageous if family conflict disappears. Thus, children's problems may also result from "pre-disruption effects" or turbulent family dynamics that may have preceded the transition or occurred at the time of the transition, such as marital conflict, parental psychopathology, poor parenting, or family dysfunction (Cherlin, Chase-Lansdale, & Mcrae, 1998). Parental psychopathology may result into both poorer parenting practices and more marital instability, therefore accounting for the association between family structure transitions and children

symptomatology (Capaldi & Patterson, 1991). Conversely, effective parenting (e.g. warmth, monitoring, consistent discipline) may decrease during phases of family instability and as a consequence, children's internalizing and externalizing symptoms may increase (Forman & Davies, 2003; Taylor, Roberts, & Jacobson, 1997) . Thus, it is important to take into account the role of other parental factors when trying to understand the role of family structure and transitions on the development of child psychiatric problems.

Family structure and transitions also vary by race and ethnicity (Dunifon & Kowaleski-Jones, 2002; Phillips & Sweeney, 2005). The percentage of married families across racial/ethnic groups is 75.7% for White, 43.2% for Black, 79.3% for Asian, and 60.5% for Hispanic populations. Among married families, 29.4% of White families, 28.0% of Black families, 18.7% of Asian families, and 38.5% of Hispanic families have a child under 18 (Vespa et al., 2013). Having a cohabiting parent is more common for a Hispanic child (4.7%), than for children of other racial/ethnic groups (2.1% for White, 2.9% for Black and 1.4% for Asian population) (Vespa et al., 2013). Nevertheless, cohabitation in Hispanic families is usually more stable than among other racial/ethnic groups (Manning, 2004; Phillips & Sweeney, 2005). While White-cohabiting parents had nearly ten times the risk of union disruption compared with married parents, there were no differences in the risk of separation for Mexican-American and Black couples (Osborne, Manning, & Smock, 2007). Lately, family transitions are also becoming more frequent among Hispanic women living in the U.S., as 44% of those who divorce will remarry within five years (Bramlett & Moshner, 2002). When nativity is taken into account, family stability is greater for foreign-born Mexican Americans compared to native-born Mexican Americans (Osborne & McLanahan, 2007).

It is also important to note that the relationship between living in a non-conventional family structure or experiencing changes in the family structure and child outcomes may not be the same across all racial/ethnic groups (Fomby & Cherlin, 2007). Family instability seems to predict more behavior problems for Hispanic children (Osborne & McLanahan, 2007) and less or none for Black children (Wu & Martinson, 1993; Wu & Thomson, 2001), compared with their White counterparts (Wu & Martinson, 1993; Wu & Thomson, 2001). These differences could be explained by variations in attitudes toward family structures based on racial/ethnic background. Oropesa (1996) found that mainland Puerto Ricans were the most accepting of cohabitation when compared with non-Hispanic White Americans and Mexican-Americans. The subjective meaning Puerto Ricans gave to cohabitation was "informal marriage" (Landale & Fennelly, 1992). These racial/ethnic differences in family structure and transitions illustrate why caution should be taken when studying different racial/ethnic subgroups. This is particularly relevant for Hispanic families, which combines several subgroups (Mexicans, Dominicans, Puerto Ricans, etc.) under a single category. We may be assuming that all groups are similar, have resembling family values, or come from the same background. These assumptions fail to consider the uniqueness for each particular group. In order to understand the role of family structure and transitions, cross-context integrative models that study variations within one specific Hispanic subgroup instead of between Hispanic sub-groups are necessary (García-Coll et al., 1996). Socioeconomic factors, highly confounded with race/ethnicity, may also play a role among women of low socioeconomic status, when childbearing outside marriage is more frequent (Cherlin, 2010), and when cohabitation lasts longer and is less likely to end up in marriage (Lichter, Qian, & Mellott, 2006). We chose to focus on arrangements of Puerto Rican families, as they seem to be at

elevated risk compared with other Hispanic groups for future development of psychopathology (Alegría et al., 2008).

Previous studies attempting to understand the impact of family structure and transitions on child behavioral problems have a number of important limitations. These studies often did not differentiate between biological and step-parents in the cohabiting categories. They also relied on small sample sizes (Dunifon & Kowaleski-Jones, 2002; Manning & Lamb, 2003) or did not control for other potentially relevant parental factors (Hao & Xie, 2001). Many have not used a representative sample or have only focused on toddlerhood (Bachman et al., 2012; Capaldi & Patterson, 1991; Cavanagh & Huston, 2006; Cavanagh & Huston, 2008; Martinez & Forgatch, 2002). Most studies assessed children's well-being in general, or the presence of symptoms, without determining the impact of such symptoms on children's lives, which is accomplished when the focus is on the diagnosis of psychiatric disorders, rather than only on symptoms (Bachman et al., 2012; Goodnight et al., 2013; Nepomnyaschy & Teitler, 2013; Vargas, Roosa, Knight, & O'Donnell, 2013). In addition, internalizing problems, such as anxiety and depression, which usually start in childhood and have long-term impact later in life, are remarkably less studied than externalizing behaviors or behavioral problems. Finally, almost all studies have been restricted to one specific context (e.g., U.S.), raising concerns about the generalizability of the findings.

This paper describes a secondary analysis of data from the Boricua Youth Study, a longitudinal study which assessed psychiatric disorders and risk factors among Puerto Rican children aged 5-13 at baseline in two different sites: San Juan, Puerto Rico and the South Bronx, New York (Bird et al., 2006a; Bird et al., 2006b). The main objective of the current analysis was to examine the influence of family structure and transitions on child psychiatric disorders in this population. First, we

examined the influence of family structure (including cohabitation unions) on child psychiatric disorders, to verify, among Puerto Rican youth, if two-parent family structures would have a more beneficial impact on the development of psychiatric disorders compared with the single-parent family structure. Second, we hypothesized that Puerto Rican children whose families had experienced a family transition would have a higher risk of psychiatric disorders compared with those children living in a stable two-parent family (regardless of their marital status). Third, we examined whether other parental factors might have better explained possible effects of family structure or transitions towards child psychiatric disorders.

2. Objectives

To examine the influence of family structure and family transitions on child psychiatric disorders in this population. We examined: (1) the influence of family structure (including cohabitation unions) on child psychiatric disorders, to verify, among Puerto Rican youth, if two-parent family structures would have a more beneficial impact on the development of psychiatric disorders compared with the single-parent family structure; (2) Whether Puerto Rican children whose families had experienced a family transition would have a higher risk of psychiatric disorders compared with those children living in a stable two-parent family (regardless of their marital status); (3) Whether other parental factors might have better explained possible effects of family structure or transitions towards child psychiatric disorders.

3. Method

3.1. Participants

The Boricua Youth Study included representative probability samples of Puerto Rican children in two sites: The South Bronx (SB) in New York and in San Juan and Caguas metropolitan areas in Puerto Rico (PR). Each sample was selected to represent the population of Puerto Rican children in each context. Children (age 5-13 at Wave 1), with at least one caretaker who self-identified as being of Puerto Rican background, were followed over three waves one year apart (2000-2004). A maximum of three siblings, randomly selected if more children were eligible, were included per household. In the full sample, at Wave 1, 89% of the adult informants were biological mothers, 4.5% grandmothers, 2.8% adoptive mothers or stepmothers, and 1.8% biological fathers. For this specific analysis, only children who participated in all three waves were included to ensure that changes on family structure at each wave were properly captured (SB: n=940; PR: n=1,202).

3.2. Procedure

Both parents and children were interviewed in their homes. Participation rates were 80.5% in SB and 88.7% in PR. Participant retention rate after three waves was greater than 85%. The study was approved by the institutional review boards of the New York State Psychiatric Institute and the University of Puerto Rico Medical School. All adult participants provided informed consent for their child to participate in the study and their children provided their assent. More detailed information about the study methodology is provided elsewhere (Bird et al., 2006a; Bird et al., 2006b).

3.3. Measures

Family structure. Family structure was defined by the number of co-resident parents and parental figures and their union status. According to who they lived with,

children were divided into five types of families at Wave 1: (a) two married bio-parents (reference category); (b) two cohabiting bio-parents; (c) cohabiting with at least one step-parent; (d) married with at least one step-parent. (e) one single-parent.

Family transitions. Family transitions were defined as the "entry or departure of a partner from the child's household" (Fomby & Estacion, 2011) at Waves 2 or 3, in relation to Wave 1. Due to the need to abbreviate the assessment during follow up, in Waves 2 and 3, the specific nature of the union for two-parent families (married or cohabiting) was not assessed. We operationalized the definition of "transition" as the change from a two-parent family (married, cohabiting, or step-parent or from (a) to (c) above) to a single-parent family (only one parent or (e) above) and vice versa; that is "a parent entry into or exit from a cohabiting/marital union."

A five-category variable was created to characterize different patterns of transitions across the three waves (see Figure 20): (1) Those who remained through the three waves in a stable two-parent family, married or cohabiting (*stable two-parent, 2P*), or the reference group; (2) those who remained through the three waves in a stable single-parent family (*stable single-parent, S*); (3) those who transitioned once from a single-parent family to a two-parent family, married or cohabiting, at any point during the three waves (*1 transition, S → 2P)*; (4) those who transitioned once from a two-parent family, married or cohabiting, to a single-parent family, i.e., separation or divorce, at any point during the three waves (*1 transition, 2P → S*); (5) those who transitioned two times at any point of the waves regardless of the type of transition (*2 transitions, 2T*).

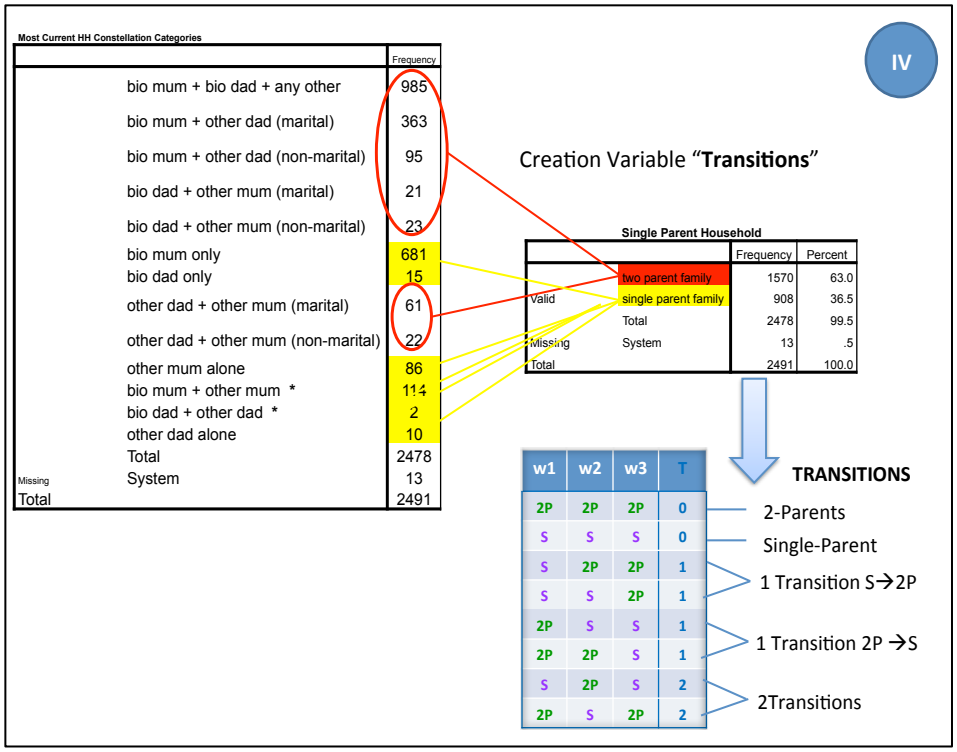


Figure 20. Family arrangements and creation of the categories of the variable family structure and family transitions. *Note*: This is raw, unweighted data. Therefore, percentages may not reflect final percentages.

Child psychiatric disorders. Child psychiatric disorders were assessed with *The Diagnostic Interview Schedule for Children-IV* (DISC-IV) and its Spanish version (Bravo et al., 2001; Shaffer et al., 2000) at all study waves. Young children (less than 10 years old) did not provide information about the disorders; thus, only parent report was used for this analysis in order to obtain information for the entire age spectrum. There is evidence that mothers do provide reliable assessments related to their children's behaviors (Bird, Gould, & Staghezza, 1992). Psychiatric diagnoses were grouped in two categories: Internalizing Disorders (Social Phobia, Generalized Anxiety, Separation Anxiety, Panic Disorder, Post-traumatic Stress Disorder, and Depressive Disorders) and Externalizing Disorders (Attention Deficit Hyperactivity Disorder, Conduct Disorder, and Oppositional Defiant Disorder). Two dichotomous

variables were created (0=*not having disorder*, 1=*internalizing or externalizing disorder*). Internalizing and externalizing disorders at Wave 3 were the child outcomes while disorders at Wave 1 were used as covariates in the regression models (see below).

Parental psychopathology. Parental psychopathology was measured using the *Family History Screen for Epidemiologic Studies* (FHE), a 17-item scale which screens for lifetime parental emotional problems (depression and suicide attempts), substance use, and antisocial behaviors (Lish et al., 1995) with good psychometric properties (Specificity: 65.0-93.5; sensitivity: 56.0-86.8; and *kappa* ≥ 0.56 for test –retest reliability of self-reports) (Weissman et al., 2000).

Social support. Social support was measured by parental responses about the availability and satisfaction of the social support they received. Whether a person had help from their spouse or partner, relatives, friends, and neighbors was assessed with 15 items (Thoits, 1995). The scale internal consistency yielded a Chronbach α value of 0.78 in the SB and 0.62 in PR.

Familism. Familism, or value attributed to family relationships, was assessed through parental responses to an abbreviated, adapted version of the *Sabogal Familism Scale,* a 4-point Likert scale (*strongly agree-strongly disagree*) with 10 items (Sabogal et al., 1987). It assesses one's values and attitudes related to familial obligations, support from family, and family as referents. The scale internal consistency yielded an α value of 0.77 in SB and 0.76 in PR.

Parental warmth. Parental warmth was measured through parental responses to 13 items from an abbreviated version of the *Hudson's Index of Parental Attitude's* (Hudson, 1982). Response options were in a 4-point Likert scale. The measure comprises items about trust, closeness, understanding, and feelings between the mother and the child. A closer, more positive relationship is indicated by higher scores on the scale. The scale's internal consistency yielded an α value of 0.80 both in SB and in PR.

Parental monitoring. Parental monitoring was measured through parental responses to a 4-point Likert-type scale with 9 items that assessed parental control over the child's daily activities, such as playing video games, watching television, and other activities inside/outside the household. It also measures curfews and parent awareness of the location of their children. High levels of parental monitoring are represented by greater scores on the scale (Patterson & Stouthamer-Loeber, 1984). The scale internal consistency yielded an α value of 0.55 in SB and 0.51 in PR.

Socio-demographic variables measured at Wave 1 (parental report) included: child gender (0=*female*, 1=*male)* and child age at Wave 1 (0=*5-9 years old*, 1=*10-13 years old)*. Socioeconomic status was also coded as a dichotomous variable (0=*above Federal Poverty Line*, 1=*below Federal Poverty Line)*. Maternal education was coded as a categorical variable (0=<*high school*, 1=*high school*, 2=*college +)*. Mother's age was included as a continuous variable.

3.4. Data analyses

Children were categorized according to their family structure at Wave 1 and according to their pattern of family transitions over the course of the three study waves.

We calculated means/proportions and standard errors for Wave 1 variables, including family structure and transitions, socio-demographic factors, parental factors, and child psychopathology. We tested for baseline differences between the two sites using t-tests for continuous variables and chi-squared tests for categorical variables. Next, two sets of logistic regression analyses were conducted. All analyses were stratified by site (SB and PR) because the value given to the family, and consequently the meaning of family structure and family transitions, was presumed to differ between the two study contexts. One set of models related the type of family structure (at Wave 1) to the likelihood of a Wave 3 internalizing or externalizing disorder (binary outcomes). The second set of models related family transitions over the three waves to the likelihood of a Wave 3 internalizing or externalizing disorder. These models were adjusted for potential confounders measured at Wave 1. In order to best understand relevant processes leading to our results, we examined a hierarchical series of increasingly complex models. Model 1 included only the main predictor; either family structure or family transitions. Model 2 also included socio-demographic factors (child age and gender and a socioeconomic variable). Model 3 further included parental factors frequently associated with the psychological disorders in children (parent psychopathology, social support, familism, parental warmth, and parental monitoring). Finally, Model 4 was additionally adjusted for the presence of any child psychiatric diagnosis (internalizing or externalizing) at Wave 1. Wave 1 child psychiatric diagnosis served as a proxy for child functioning prior to a family transition, aiming to reduce confounding due to the selection factors associated with family change (Brown, 2006). Adjusted odds ratios (AOR) and 95% confidence intervals (95% CI) for family structure or family transitions were derived from the models. Data were analyzed using SAS software, version 9.3. All analyses were adjusted for differences in the probability

of selection resulting from the sampling design (strata and clustering) and were weighted to reflect the 2000 Census. Weighted estimates were computed and standard errors were adjusted for the intra-class correlations induced by multistage sampling with children nested within households and households nested within primary sampling units accounting for the within-family variance.

4. Results

Table 12 summarizes descriptive statistics of the main variables for each site. Family structure differed significantly by site (χ^2=136.09, p<0.0001). At Wave 1, living in a biological-parent married family was more prevalent in PR (PR: 44.98%; SB: 16.02%) and living in a single-parent family was more prevalent in the SB (PR: 27.52%; SB: 43.85%). In PR, 13.55% were cohabiting families while 19.74% were cohabiting families in the SB; 72.47% were two-parent families (married or cohabiting, biological or non-biological relationship) in PR and 56.16% in the SB. Family transitions also differed significantly by site (χ^2=63.62, p<0.0001). Being in a stable 2-parent family throughout the three waves was the most frequent category in both sites (PR: 63.06%; SB: 40.94%). Families in the SB (29.2%) were more frequently stable single-parent families throughout the waves compared with PR (18.1%). Children did not differ significantly on either internalizing or externalizing disorders by site at either Wave 1 (p=0.2701 and 0.6979, respectively) or Wave 3 (p=0.3452 and 0.3076, respectively).

Table 12. Descriptive statistics, Boricua Youth Study, W1 (N=2,142)

	PR (n=1,202)		SB (n=940)		
Variables	%/Mean	SE	%/Mean	SE	Test Statistic
Structure, % (W1)					
Married bio-parents	44.98	2.48	16.02	1.60	136.09[b]***
Cohabiting bio-parents	8.01	1.18	13.57	1.54	
Cohabiting step-parents	5.54	0.82	6.17	1.03	
Married step-parents	13.94	1.38	20.4	1.47	
Single-parent	27.52	2.51	43.85	2.39	
Transitions (W1-W3), %					
Stable 2-parent	63.06	2.77	40.94	2.32	63.62[b]***
Stable single-parent	18.05	2.00	29.20	2.1	
1 Transition (S → 2p)	7.22	1.11	11.21	1.2	
1 Transition (2p → S)	6.27	0.74	10.38	1.15	
2 Transitions	5.40	0.87	8.27	0.98	
At Wave 1:					
Age, *%*					
5-9 years	52.79	1.84	52.58	1.67	0.01[b]
10-13 years	47.21	1.84	47.42	1.67	
Gender, %					
Males	48.61	1.60	48.99	1.44	0.031[b]
Females	51.40	1.60	51.01	1.44	
Poverty, %					
Above F.P.G.	26.97	2.10	34.37	2.21	5.74[b]*
Below F.P.G.	73.03	2.10	65.63	2.21	
Mother's age, *M (SE)*	34.59	0.31	34.09	0.27	1.54[a]
Mother's education, %					
< High School	24.28	2.50	47.02	2.24	82.43[b]***
High School	44.11	2.64	43.25	2.11	
College +	31.61	2.56	9.73	1.38	
Parent psychopathology, %	37.69	2.07	27.66	1.79	13.19[b]***
Social support (parent), *M (SE)*	1.79	0.02	1.07	0.02	658.14[a]***
Familism (parent), *M (SE)*	2.25	0.02	2.24	0.02	0.00[a]
Parental warmth, *M (SE)*	2.43	0.02	2.47	0.02	4.10[a]*
Parental monitoring, *M (SE)*	13.60	0.11	14.16	0.10	14.97[a]***
Youth diagnosis, %					
Internalizing (W1)	8.27	1.00	6.88	0.79	1.22[b]
Externalizing (W1)	10.88	0.95	10.30	1.13	0.15[b]
Internalizing (W3)	3.72	0.70	4.64	0.65	0.89[b]
Externalizing (W3)	7.57	0.98	9.04	1.08	1.04[b]

Note: Weighted data. [a]*F-value;* [b]Rao-Scott Chi-Square; *$p < .05$; **$p < .01$; ***$p < .001$

Table 13 presents the association between family structure (Wave 1) and child psychiatric disorder (Wave 3). Family structure was not associated with internalizing

disorders. In the SB only, family structure was associated with externalizing disorders, with positive and significant coefficients for two of the four family structure categories. Children in married step-parent and single-parent households reported more behavioral problems than did children in married biological-parent households (Model 1, OR=3.04; 95% CI [1.14, 8.14]; OR=2.66; 95% CI [1.00, 7.10], respectively). When controlling for parental factors (Model 3), the set of family structure variables was no longer significant.

Table 14 presents analyses parallel to those described in Table 13, with family transitions as the main independent variable of interest. Family transitions were not associated with externalizing disorders. In PR only, being in a two-parent family that transitioned to a single-parent family once was related to child internalizing disorders. This relationship remained significant after adjusting for demographic, parental and child psychiatric disorders at Wave 1 (Model 4, AOR=4.43; 95% CI [1.54, 12.68]). This association was not fully explained by other child (gender, age, or child psychiatric disorder) and parent characteristics (psychopathology, social support, familism, or monitoring) assessed at Wave 1.

Table 13. Logistic regression analysis: Family structure at W1 and child psychiatric disorders at W3 (N=2,142)

	Internalizing																	
	PR (n=1,202)									SB (n=940)								
	Model 1			Model 2[a]			Model 3[b]			Model 1			Model 2[a]			Model 3[b]		
	B	SE	OR	B	SE	AOR	B	SE	AOR	B	SE	OR	B	SE	OR	B	SE	AOR
Structure: (married bio-parents, Ref)																		
Cohabiting bio-p	-0.35	0.55	0.71	-0.36	0.58	0.70	-0.47	0.57	0.62	0.11	0.49	1.12	0.22	0.50	1.25	0.25	0.44	1.29
Cohabiting step-p	0.35	0.48	1.42	0.32	0.49	1.38	-0.02	0.57	0.98	-0.17	0.74	0.84	-0.08	0.73	0.93	-0.48	0.78	0.62
Married step-p	0.26	0.33	1.30	0.23	0.34	1.26	-0.07	0.40	0.93	-0.22	0.53	0.80	-0.17	0.54	0.85	-0.34	0.56	0.71
Single-p	0.22	0.36	1.25	0.19	0.36	1.21	-0.15	0.39	0.86	0.56	0.44	1.76	0.70	0.46	2.00	0.15	0.46	1.17
	Externalizing																	
	PR (n=1,202)									SB (n=940)								
	Model 1			Model 2[a]			Model 3[b]			Model 1			Model 2[a]			Model 3[b]		
	B	SE	OR	B	SE	AOR	B	SE	AOR	B	SE	OR	B	SE	AOR	B	SE	AOR
Structure: (married bio-parents, Ref)																		
Cohabiting bio-p	0.24	0.41	1.27	0.05	0.40	1.06	-0.40	0.35	0.67	0.77	0.52	2.16	0.77	0.54	2.15	1.00	0.69	2.73
Cohabiting step-p	0.49	0.37	1.63	0.34	0.39	1.40	-0.02	0.47	0.98	0.69	0.76	2.00	0.71	0.77	2.03	1.45	0.89	4.28
Married step-p	0.51	0.30	1.67	0.40	0.31	1.49	0.02	0.39	1.02	1.11*	0.50	3.04	1.19*	0.54	3.29	1.16	0.65	3.18
Single-p	0.52	0.28	1.69	0.42	0.28	1.52	0.11	0.30	1.11	0.98*	0.50	2.66	1.05[δ]	0.56	2.86	1.03	0.67	2.81

Note: Unstandardized logistic coefficients with odds ratio
OR=Odds Ratio. AOR=Adjusted Odds Ratio.W1: Wave 1; W3: Wave 3.
[a] Adjusted for demographics: age, gender, poverty (omitted from the table).
[b] Adjusted for parent factors: mother's age, mother's education, parent psychopathology, social support, familism, maternal acceptance, parental monitoring (omitted from the table). Structure Predictors coded as 1 for yes and 0 for no. Married bio-parent is the reference category.
* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

Table 14. Logistic regression analysis: Family transitions W1-W3 and children's psychiatric disorders at W3 (N=2,142)

	Internalizing																					
	PR (n=1,202)												SB (n=940)									
	Model 1			Model 2[a]			Model 3[b]			Model 4[c]			Model 1			Model 2[a]			Model 3[b]			Model 4[c]		
	B	SE	OR	B	SE	AOR	B	SE	AOR	B	SE	AOR	B	SE	OR	B	SE	AOR	B	SE	AOR	B	SE	AOR
Transitions: (2P, Ref)																								
S	0.44	0.37	1.55	0.39	0.37	1.48	0.14	0.47	1.15	0.10	0.46	1.11	-0.16	0.37	0.85	-0.16	0.41	0.85	-0.39	0.45	0.68	-0.43	0.47	-0.65
2P ⟶ S	0.74	0.69	2.10	0.74	0.69	2.09	1.00	0.66	2.71	0.90	0.74	2.46	0.12	0.41	1.12	0.16	0.42	1.17	0.07	0.48	1.07	0.01	0.53	1.01
S ⟶ 2P	1.53***	0.41	4.65	1.52***	0.41	4.58	1.49**	0.49	4.44	1.49**	0.54	4.43	-1.65	1.04	0.19	-1.66	0.05	0.19	-1.64	1.01	0.19	-1.66	0.97	0.19
2T	0.62	0.66	1.85	0.57	0.65	1.78	0.74	0.64	2.10	0.93	0.60	2.55	-0.36	0.67	0.70	-0.34	0.68	0.71	-0.22	0.71	0.80	-0.21	0.75	0.81
	Externalizing																					
	PR (n=1,202)												SB (n=940)									
	Model 1			Model 2[a]			Model 3[b]			Model 4[c]			Model 1			Model 2			Model 3[b]			Model 4[c]		
	B	SE	OR	B	SE	AOR	B	SE	AOR	B	SE	AOR	B	SE	OR	B	SE	AOR	B	SE	AOR	B	SE	AOR
Transitions: (2P, Ref)																								
S	0.45	0.34	1.57	0.46	0.35	1.59	0.24	0.34	1.28	0.25	0.35	1.28	-0.36	0.33	0.70	-0.37	0.37	0.69	-0.56	0.44	0.57	-0.56	0.41	0.57
2P ⟶ S	0.48	0.44	1.61	0.44	0.44	1.56	0.71	0.44	2.04	0.80	0.46	2.24	-0.04	0.34	0.96	-0.03	0.34	0.97	0.08	0.39	1.08	0.07	0.38	1.07
S ⟶2P	0.20	0.46	1.22	0.24	0.48	1.27	0.22	0.49	1.24	0.37	0.49	1.44	-0.45	0.44	0.64	-0.47	0.47	0.63	-0.11	0.47	0.90	0.08	0.43	0.92
2T	-0.56	0.55	0.57	-0.61	0.56	0.54	-0.75	0.60	0.47	-0.62	0.63	0.54	-0.11	0.39	0.90	-0.10	0.38	0.91	0.08	0.47	1.08	0.11	0.49	1.12

Note: 2P: stable two-parents; S: Stable single-parent; 2P to S: one transition from two-parents to a single-parent; S to 2P: one transition from single-parent to two-parent; 2T: two transitions.
Unstandardized logistic coefficients with odds ratio in the second column
OR=Odds Ratio. AOR=Adjusted Odds Ratio. W1: Wave 1; W3: Wave 3.
[a] Adjusted for demographics: age, gender, poverty (omitted from the table).
[b] Adjusted for parent factors: mother's age, mother's education, parent psychopathology, social support, familism, maternal acceptance, parental monitoring (omitted from the table).
[c] Adjusted for diagnosis at baseline: externalizing disorder at W1 (omitted from the table). Transitions Predictors coded as 1 for yes and 0 for no. Stable 2-parent is the reference category.
* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

5. Discussion

In this study, we sought to extend previous literature on family arrangements by assessing, using a two-context longitudinal design, the association between family structure and transitions with internalizing and externalizing psychiatric disorders among Puerto Rican children. No specific family structure was associated with a psychiatric disorder. Family transitions were not associated with externalizing disorders. In PR only, being in a two-parent family that transitioned to a single-parent family once was related to child internalizing disorders.

Overall, our results suggest that Puerto Rican children living in a family structure that is different from the married biological-parent family structure do not necessarily fare worse. This specific Hispanic subgroup (Puerto Ricans), examined in two contexts, behaved differently from other populations in which children raised in family structures which included cohabiting biological-parents, cohabiting step-parents, or single-parent families were more likely than those in married biological-parent families to display behavior problems (Deleire & Kalil, 2002; Manning & Lamb, 2003).

We also found that marital status (married or cohabiting) did not have a differential effect on child psychiatric disorders. A possible explanation is that cohabitation may be closer to marriage among Puerto Rican women than among other groups (Manning & Landale, 1996). Informal unions are common in the Caribbean region and on the island of Puerto Rico. Cohabitation itself has been documented since the beginning of the Spanish presence in the sixteenth century (Landale et al., 2006). Another unique situation that distinguishes Puerto Ricans from other Hispanic groups is their legal status as U.S. citizens since 1917. This eliminates the necessity of marriage as a pathway to obtaining citizenship. A study found that Puerto Rican

women were more accepting of cohabitation than other Hispanic and non-Hispanic sub-groups (Oropesa, 1996) and the subjective meaning Puerto Ricans gave to cohabitation was as an "informal marriage" (Landale & Fennelly, 1992). This could potentially explain why parental cohabitation has a limited or a lack of effect on the development of psychiatric disorders in children.

We also did not find differences in the relationship between family structure and child psychiatric disorders by context (PR or SB). This is different from Fomby and Estacion's (2011) findings, according to which children from cohabiting US-born mothers of Puerto Rican background experienced higher rates of externalizing behavior problems, while their counterparts, children from cohabiting native-born (PR) mothers, did not. However, the two studies are not very comparable since their primary interest was cohabitation at birth and we were measuring cohabitation at ages 5 to 13. This suggests that cohabitation may be important in earlier periods of development for those children who migrate while the difference may disappear if cohabitation occurs in later periods of life.

Due to the limitations of our data, we could not examine changes (or transitions) in family structure related to cohabitation. However, we were able to consider the general category of two-parent families (both cohabiting and married) as the reference family type for testing the instability hypothesis, which states that family instability would impact child psychiatric disorders.

We identified one study of Puerto Rican mothers and their children which focused on cohabitation and child behaviors (Fomby & Estacion, 2011). It is important to note that this study included several limitations, and even though they differentiated between children from U.S. born and mainland born mothers, it was restricted to only one context (U.S.). Landale (1995), on the other hand, did examine

Puerto Rican family structures and transitions in two-contexts, but without studying their association with child behaviors. Her study showed that migrant Puerto Ricans tended to have a pattern of earlier informal unions and higher rates of union dissolution than non-immigrants. Our results provide only partial support for the instability hypothesis; previously corroborated by another study with the U.S. Hispanic population, which did not focus on a specific Hispanic subgroup or distinguish between types of psychiatric disorders (Osborne & McLanahan, 2007). Consistent with the transitions hypothesis, we found that children in a stable single-parent family who did not experience any transitions along the three waves did not differ from those in a stable two-parent family (Cherlin, 2009; Najman et al., 1997; Yang & Kramer, 2012). We did not find any differences in the rate of externalizing disorders, neither in PR nor in the SB, when we compared those who experienced one transition and those who did not experience any. However, when considering internalizing disorders, differences were detected in Puerto Rico.

Unlike earlier studies, we were able to ascertain that the risk of child psychiatric disorders was shaped by the type of disorder and context. Interestingly, the only type of transition which had an impact on child internalizing psychiatric disorders in PR was from being in a two-parent family and transitioning to a single-parent family. Puerto Rican children who transitioned to a single-parent family had more than four times greater odds of internalizing disorders than children in stable two-parent families, even after controlling for age, gender, poverty, and other variables. This may indicate that there are contexts where transitions may have a negative impact. It is also likely that breaking up a relationship, rather than starting a new one, would be the specific change related to children's emotional problems (Bachman et al., 2011; Ryan & Claessens, 2013; Waldfogel et al., 2010).

Contrary to the notion that the number of transitions functions cumulatively with each transition increasing the probability of developing problems in children, we found no significant differences between those children in families that have transitioned twice and those who were living in a stable two-parent family (Bachman et al., 2011; Cavanagh & Fomby, 2012; Fomby & Cherlin, 2007). The National Longitudinal Survey of Youth (NLSY) reported that multiple transitions were not associated with higher levels of child behavioral problems (Carlson & Corcoran, 2001). Ryan & Claessens (2013) also found that two transitions were not associated with increasing internalizing or externalizing problems compared to children from long-term divorced parents; suggesting that if a transition to a single-parent family is followed by re-partnering quickly enough, problems associated with the movement to a single-parent family may be prevented.

Different explanations may account for our results. First, acculturation, a phenomenon that involves the integration of values and norms resulting from close contact with another culture, may have an important role in explaining PR and SB differences. American cultural values are more common in Puerto Rican children living in the SB than among those living in PR (Duarte et al., 2008). High acculturation levels have been robustly related to lower levels of family cohesion in two Hispanic subgroups which may indicate lower identification with values like family stability and cohesiveness (Gil & Vega, 1996). Accordingly, if a transition takes place, in particular from a two-parent family to a single-parent family, its impact may differ by site. It is possible that those in the SB are more acculturated and probably experiencing less family cohesion. They may also be less affected by the disruption in their two-parent family as it may not be such a strong value to them. The overall idea would be that rules or expectations of behavior (norms) may influence

attitudes towards family composition and how, ultimately, transitions would impact an individual and potentially affect the development of child psychiatric disorders.

Second, we argue that racial/ethnic differences may play an important role in the pattern of results we described. The literature has shown weaker or no such association between transitions and child psychiatric disorders for Black children compared with White children (Fomby & Cherlin, 2007; Wu & Martinson, 1993; Wu & Thomson, 2001). Fomby et al., (2010) suggest that the adverse effects of family instability may be attenuated in certain populations due to their socio-economic characteristics and the availability of extended family support. Most Puerto Rican families live under the poverty line; being at the bottom in the majority of economic well-being measures when compared with other Hispanic groups (Tienda & Mitchell, 2006). As part of the family stress hypothesis, if we consider a family transition as a single stressful event, it may be experienced as just one more adverse experience among several other stressful events they may be experiencing. Also, single-parenting and family transitions may have become normative in certain low-income communities (Bachman et al., 2011). As a consequence, adaptive strategies towards stressful situations may have grown among these families, reducing the likelihood of child psychiatric disorders. Thus, children who experienced two transitions might have gotten used to instability. Another relevant point is that the availability of extended family or an important constant adult (school, sports) may be playing an important role for the child as a source of extra emotional support. Having a stable reference person apart from the changing parental figures may attenuate the repercussion that family transitions could have on children's well-being. Accordingly, Fomby et al. (2010) speculate that other social factors may also protect against the development of a psychiatric disorder. Puerto Rican families may be more likely than

White families to continue residing in the same neighborhood after undergoing a family transition; which may prevent them from losing their surrounding extended network. It is also possible that a methodological limitation (low number of families with two transitions) could account for our results.

Our findings provide a better understanding of how context can modify how family transitions may influence the lives of Puerto Rican children. Our analyses indicate that only in PR a transition from a two-parent to single-parent family was associated with an increase in the likelihood of a child developing an internalizing disorder. Context may be a differential factor shaping this risk. Being in an intact family, in this case with two parental figures consistently over time, regardless of marital status, however who is present in the child's life, may be of more importance in PR compared to the SB, and therefore disruptions in this family structure may have a stronger impact on child outcomes.

We also aimed to understand whether other parental factors could better explain the association between family structure, transitions, and children's psychiatric disorders. None of the parental factors that we examined accounted for the association between transitioning from a two to a single-parent family in PR, even when those factors were strongly related to child psychopathology (such as having a parent with a psychiatric disorder or lack of parental warmth). Our findings are in consonance with the results of a previous study and actually extends these findings, as such study did not include the same parental factors (only controlled for parent knowledge of activities and parent-child relationship quality) (Donahue et al., 2010). Finally, no socio-economic factor accounted for the association between family structure transitions and changes in child psychiatric disorders.

Study strengths include the large population-based sample selected probabilistically, the two-context and longitudinal design, a high compliance rate at follow-up, and the use of a standardized psychiatric diagnostic interview. Some study limitations also apply. First, the assessment of child disorders is based on an adult report, which can lead to an underrepresentation of certain disorders; particularly of internalizing disorders. Second, the available data did not allow us to distinguish specific family-structure and transitions like cohabitation, reasons for parental absence (death, divorce, temporary separations), or the length of time since the separation and quality of the relationship (i.e., conflict) between the caretakers. Moreover, we have examined three waves of measurements recorded only one year apart. Results may differ when longer periods are taken into account. Also, information about most parental factors (social support, familism, parental warmth, and education) was based exclusively on self-report from one caretaker. A more complete picture could have been obtained if both caretakers could have been interviewed at the different time points. Future analyses should address these factors, if possible.

Despite these limitations, we provide evidence that cohabitation or family transitions may not be associated with negative child psychiatric outcomes. The traditional conceptualization of family and its changes may not appropriately represent Hispanic children's development. Additionally, trying to understand all Hispanic subgroups as one single entity and ignore the context where children are raised may not be appropriate. For some ethnic groups, living in a cohabiting family may not increase children's probability of developing an internalizing or externalizing disorder. Determining significant correlates of family transitions can provide relevant input for the prevention of psychiatric disorders in this population. Public health,

school-based, or outpatient interventions targeting children in PR should take into account that transitioning to a single-parent family may have an impact on children's likelihood of developing an internalizing psychiatric disorder.

GENERAL DISCUSSION

GENERAL DISCUSSION

1. General discussion

Despite the mentioned limitations for each study, the present dissertation makes important contributions to the literature on family factors and parenting among Puerto Rican children and has a number of clinical implications for prevention, intervention and future research.

Our results suggest that for children from Puerto Rican background, improvements in parental warmth may protect children against the development of different types of psychiatric disorders (i.e., anxiety disorder, MDD, DBD, ADHD) and substance use, independently of other relevant parenting factors (i.e., parental coercive discipline, parental monitoring, familism, parent social support, parent psychopathology and maternal education). Increasing parental warmth may be more beneficial for girls than for boys for reducing child depression and ADHD. Nevertheless, in specific cases (i.e., substance use, anxiety and DBD) parental warmth had the same protective effect irrespective of the gender. Overall, we corroborated the notion that parental warmth reduces the risk of developing psychiatric disorders regardless of social context; however, in specific cases (i.e., MDD), it is possible that other risk factors may trump PW's effect.

Moreover, the strength of PW varied by disorder. A one SD increase in Wave 1 PW was associated with 3.57, 2.63 and 2.08 times lower odds of having DBD for each wave; 2.78, 2.50, and 2.22 times lower odds of having ADHD for each wave; 2 and 1.45 times lower odds of having anxiety and MDD, respectively; and 1.30 and 1.23 times lower odds of having non-alcohol SU and any SU, respectively. Therefore, in Puerto Rican population PW seems to have greater effect towards externalizing

disorders, followed by internalizing disorders and substance use. Besides these differences, we can conclude that PW exerts a general rather than specific protective factor on child psychological adjustment. These results support the notion that PW is not singularly associated with specific outcomes or disorders, but rather to risk of psychopathology (McKee et al., 2008; Wood et al., 2003). However, we did not find an association between PW and reduction in use of alcohol.

The association between PW and the general protective factor on psychiatric disorders seem to work through the promotion of self-regulation and emotion regulation in children. Although we cannot derive this conclusion from our data, literature seems to suggest that emotional regulation could be the mechanism of action between PW and child anxiety (Gottman et al., 1997); MDD (Rapee, 1997); externalizing disorders (i.e., DBD and ADHD) (Tronick, 1989); and SU (Wong et al., 2006). Overall, PW appears relevant across disorders possibly because it is essential to youths' development of appropriate emotion regulation skills, a central ability to both internalizing and externalizing psychopathology (Kopp, 1982).

Moreover, our results suggest that Puerto Rican children living in a family structure that is different from the married biological-parent family structure do not necessarily fare worse. This specific Hispanic subgroup (Puerto Ricans), examined in two contexts, behaved differently from other populations in which children raised in family structures which included cohabiting biological-parents, cohabiting step-parents, or single-parent families were more likely than those in married biological-parent families to display behavior problems (Deleire & Kalil, 2002; Manning & Lamb, 2003). We provide evidence that cohabitation or family transitions (changes in family structure) may not be associated with internalizing or externalizing disorders among Puerto Rican families. Therefore, the traditional conceptualization of family

and its changes may not appropriately represent child's development among this Hispanic group.

Literature on family structure has shown that children growing up in a unstable family structure are less likely to achieve effective self-regulation, and therefore having more emotional and social problems (Harrison & Ungerer, 1997; McHale, Lauretti, Talbot, & Pouquette, 2002; Milan, Milan, & Pinderhughes, 2006; Van Ijzendoorn, Tavecchio, Stams, Verhoeven, & Reiling, 1998). Therefore, family instability may delay or interfere with child's emotional regulation. This is theorized according to the "emotional security hypothesis" (Cummings & Davies, 1996; Cummings, & Wilson, 1999). Sustained ambiguity and uncertainty relating familial relationships may be associated with a child hypersensitivity to environmental changes. This circumstance may lead the children to overreact to both stressful and normative events (i.e., behavioral and emotional problems). The authors stress the importance of broad family contexts instead of the one-to-one relations with the family. Usually, preceding a family transition (i.e., divorce or remarriage) family routines change noticeably. Moreover, it can be the case that children witness conflict due to a difficult separation, or spend less time with their parents because of the new family member. These circumstances may lead to emotional insecurity in the children, which is an important factor in the child's emotional regulation (Cox & Paley, 2003).

To sum up, we make an attempt to integrate results from the three studies we have presented taking into account the following ideas: the literature has suggested that the more number of family transitions (i.e., changes in family structure) are associated with more externalizing behaviors and poorer emotional adjustment. However, these associations seem to be all mediated by ineffective parenting practices (Martinez & Forgatch, 2002). For example, it has been reported that after

divorce mothers tend to supervise their children less and have less consistency with discipline (Hetherington et al., 1998). Therefore, several relevant points need to be considered when taking into account our results and the existing literature: 1) the lack of support for the notion that number of transitions being associated with more child problems; and 2) the buffering effect of parental warmth against psychiatric disorders in children; 3) that we controlled for other interrelated parental factors associated with child outcome; 4) literature consistently showing that Puerto Rican mothers display higher levels of warmth than parents from other ethnic background of than other Hispanic mothers being a core value of childrearing for this population; 5) and the fact that both family instability and parental warmth seem to be associated to child externalizing and internalizing disorders through child's emotional regulation as an action mechanism. Therefore we can tentatively suggest that maybe effective parenting (i.e., warmth) may be a protective factor among Puerto Rican single-parent families and among those families who transition from one family structure to another. Moreover, in Puerto Rico only, transitioning once from a two-parent family to a single-parent family was related to children internalizing problems. Besides the differences in family values between parents in Puerto Rico and those in the South Bronx due to acculturation factors (see discussion of the third study), interestingly PW (at W1) was significantly different between sites. Puerto Rican parents in the South Bronx reported higher levels of PW than their counterpart in Puerto Rico ($p<0.05$). However, despite that we controlled for the effect of parental warmth, we did not perform pathway analysis in order to disentangle the individual contribution of each variable included in the model. Consequently, we cannot conclude that this may be the case, and we just leave it as a tentative explanation given the results from the three studies presented.

Some evidence supporting this explanation comes from a recent longitudinal study of the effects of maternal warmth (MW) on cortisol stress response 15 years after parental divorce (Luecken, Hagan, Wolchik, Sandler, & Tein, 2016). Those children who reported high levels of MW after divorce took place were associated with a report of high levels of MW late in adolescence. High child-reported MW was associated with lower levels of cortisol response when completing a challenging task. Cortisol dysregulation has been associated with mental health disorders such as depression, anxiety disorders and substance abuse (Burke, Davis, Otte, & Mohr, 2005; Heim & Nemeroff, 2001; Vreeburg et al., 2010). Therefore, these results suggest that having a warm mother after divorce may promote adequate biological regulation later in life among those children from divorced families, which also may reduce the probabilities of developing a mental health disorder.

2. Future directions

2.1. Identifying predictors of PW

Future studies should address predictors of parental warmth in order to disentangle whether any modifiable factor is related to PW, identifying target variables for intervention. There is a scarcity of research on the determinants of parenting. Preliminary results suggest that vulnerability to psychiatric illness and childhood temperament may influence PW (Kendler, Sham, & MaClean, 1997), however it is difficult to intervene in these variables. More research is needed to address this question.

Moreover, it would be desirable to measure PW through behavioral measures rather than only through self-report. Observing parent-child interaction through a 1-

hour session can give important information without the parent social desirability bias.

2.2. Inclusion of the father figure

Derived from a limitation of our studies, and also a general gap in the literature on parenting practices, results are mostly based on maternal figures. Paternal warmth should be studied, as it may be a better predictor than maternal warmth of offspring's behavior, including substance abuse (Campo & Rohner, 1992; Khaleque & Rohner, 2011; Rohner & Veneziano, 2001). Also the study of single-father households and the implication of this family structure in child outcomes should be taken into account. Fathers may have different child rearing and parenting experiences and may behave differently through parenting intervention. Therefore they should be included both in assessment and intervention procedures (Calzada, Eyberg, Rich, & Querido, 2004), with some studies suggesting that children with fathers involved in treatment report more improvements at follow-up than families with and absent father (Bagner & Eyberg, 2003).

2.3. Using ethnically/racially appropriate instruments and considerations

As we have described, not only Hispanic individuals are different from non-Hispanic White Americans, but also Hispanic subgroups are different among themselves. The majority of studies have relied on measures previously examined almost exclusively among White individuals; however, it may not be a valid measure for other populations. Future research should take into account properly validated measures for the Puerto Rican population. As suggested in the literature, Puerto Ricans may tend to over-report symptoms when using less structured measures

(Canino et al., 1987). Also, cutoffs of some instruments widely used among White American children (i.e., Child Behavioral Check List, CBCL, (Achenbach & Edelbrock, 1981)) have been proven to inappropriately categorize Puerto Rican children. Bird et al., (1988) reported that the cutoff points of the CBCL officially published were low for Puerto Rican child and adolescents in Puerto Rico, showing high sensitivity (0.87) but low specificity (0.63) in this population.

Some studies have reported that the use of traditional income questions may not be reliable to assess family socio-economic status in low-income populations (i.e., samples reporting family income lower than $10,000) (Warner et al., 2001). For example, it has been proposed that substance use and alcohol use may be more related with parental education rather than with actual income in Puerto Rican samples (Canino, Anthony, Freeman, Shrout, & Rubio-Stipec, 1993; Canino, Bird, Rubio-Stipec, Geil, & Bravo, 1989). Therefore, future studies may need to take this into account and control for a proxy of socio-economic status (i.e., parental educations), which among low-income populations may be a more accurate variable.

Some studies have reported that minorities in the U.S. are more careful about the disclosure of their substance use (Essau, Conradt, Sasagawa, & Ollendick, 2012; Fendrich & Vaughn, 1994; Mensch & Kandel, 1988), therefore our sample may have underreported their substance use. In view of this possibility, future studies should investigate if this phenomenon happens within the spectrum of all substances. Also, it should be examined whether biases disappear once a person discloses substance use for one type of substance as such disclosure may reduce the probability of reluctance to admit other substance use (Warner et al., 2001).

2.4. Detailed definition of substance and alcohol use

Future research should focus on more detailed analyses differentiating the buffering effect of PW against different types of substances (i.e., marijuana, inhalants, stimulants or amphetamines, sedatives or tranquilizers, cocaine etc.). Moreover, despite the fact that we did not find an association between PW and a reduction of the likelihood of ever using a certain substance, future research should also study different patterns of drinking (i.e., drinking with and without binging) (Caetano et al., 2016).

Due to the cultural importance of alcohol for this specific Hispanic population, future research may also benefit from addressing parental drinking conduct, in order to decrease the negative modeling behaviors they may exert toward their children. Reduction in parents' drinking behaviors may foster alcohol-specific parenting practices, and therefore decrease youths' alcohol use (Van Zundert et al., 2006). If alcohol drinking is such a normative behavior among Puerto Ricans, information about the influence their own drinking behavior has on their children's may be important. Also, educating parents on the positive effect of maintaining strict rules regarding drinking may show a reduction in their children's drinking behavior over time (Mares et al., 2012). In order to target and tailor interventions appropriately, future research should explore the realities and challenges faced by Puerto Rican families that could help understand ways in which positive parenting behaviors could be increased.

Goals such as an increasing positive parenting practices (i.e., parental warmth) and decreasing of deleterious parenting practices through both psychoeducation and fostering parent-child relationships can be targeted through parent training interventions.

3. Clinical implications

Our results suggest the potential benefits that positive parenting (i.e., warmth) may have on child psychological adjustment. Therefore, it seems reasonable to invest on parenting programs, which may enhance positive parenting practices in those parents who have parenting difficulties (i.e., neglecting parents, parents of maltreated children, social justice children). Institutions should identify these parents, who may especially benefit from these interventions.

Some studies have created enhanced parent training for single mothers (Chacko et al., 2009) under the assumption that single parents and their children are at-risk for poor outcomes both during and after parent training. Our results highlight the importance of parenting practices (such as expressed warmth) irrespective of the family structure as the factors associated with child psychopathology. Although single parent families may face more difficulties to attend to services (i.e., they have more day-to-day stressors and may have less support (Kazdin, Holland, Crowley, & Breton, 1997; Kazdin & Wassell, 2000; Kazdin, 2005)), the underlying framework to offer parenting programs should be difficulties with parenting skills, not their living arrangements.

3.1. Parent training

Family-centered approaches offering education and support to parents can bolster parenting competence and warmth, which can improve outcomes for children (Stormshak et al., 2011). Two meta-analysis (including 20 RCT, two single cohort studies and 2 non-randomized trials) reported that parent training was effective for improving child behavior (compared to waitlist and different comparisons groups) (Barlow & Stewart-Brown, 2000; Serketich & Dumas, 1996). These interventions usually comprise a) differential reinforcement; b) timeout procedures; c) parent role in

the onset and maintenance of child difficulties (Hollenstein, Granic, Stoolmiller, & Snyder, 2004). However, interventions are very heterogeneous (i.e., service delivery, target of intervention) some interventions only involve parents without including the dyad parent-child that we believe will help reinforcing parent-child relations and therefore, parental warmth. We believe parent interventions should comprise family skills training to both parents and child together practicing with a therapist. Aligned with our approach, Kumpfer and Alvarado (2003) described recommendations relating characteristics of effective parenting interventions and reported small effects for child-only interventions compared to the moderated to large effects found for the family-focused interventions.

The underlying principle shared by parenting interventions is the expectation that changes in parenting behaviors will be associated with an improvement in child's difficulties and problem behaviors (Thomas & Zimmer-Gembeck, 2007). However, some of the challenges we find within family-focused interventions are: 1) not all available intervention programs are evidence-based; 2) at-risk families (i.e., facing multiple stressors) may not benefit from these programs; 3) some programs are not designed by mental health professionals; 4) mostly all the programs have been developed in English for White Americans. However, there are some evidence-based, assessment-driven, clinically developed programs. Examples are Parent-Child Interaction Therapy and the Triple P-Positive Parenting Program, which focuses on specific parenting factors, such as increasing parental warmth and reducing parental hostility (Thomas & Zimmer-Gembeck, 2007).

3.1.1. Parent-Child Interaction Therapy (PCIT)

Hembree-Kigin and McNeil, (1995) developed the Parent-Child Interaction Therapy (PCIT) for children (4-7 years) and their caregivers with a focus on externalizing problems. One of the characteristics that differentiate this program from other parenting trainings is the use of direct and in vivo coaching of parental behaviors. The training usually last between 12 to 14 weeks divided in two phases: 1) Child directed interaction, and 2) Parent directed interaction. Within these phases, sessions are also structured in terms of their content: 1) two didactic sessions teaching and discussing parenting skills; 2) 10-12 direct coaching sessions, where the therapists supervises parent-child interaction through a wan-way-mirror at the same time that can communicate with the parent through an ear device the parent has.

3.1.2. The Triple P-Positive Parenting Program

Sanders and colleagues developed the Triple P-Positive Parenting Program (Sanders & Mcfarland, 2000; Sanders, 2008; Sanders, Cann, & Markie-Dadds, 2003), which is a Behavioral Family Intervention. In order to serve the individual needs of each family, it is organized as a multi-tiered therapy with information available through numerous sources (i.e., professionals, self-directed modules, multi-media options, etc.). The main goal of the program is to help caretakers to identify causes of the onset and maintenance of their child behavior. The Triple-P usually comprises 10 sessions which focus on: communication skills, operational consequences for misconduct, activity scheduling, reinforcement and homework (Turner, Markie-Dadds, & Sanders, 1998).

Thomas and Zimmer-Gembeck (2007), found that participating in either the Triple P or the PCIT improved parenting and child difficulties prom pre- to post-treatment. The meta-analysis also provided preliminary evidence that effects of these

interventions were maintained over time. Standard PCIT had larger effects than Triple P, probably due the directed coaching and instructions employed, compared to the group, video, text or other formats to provide information that Tripe P uses.

However, one of the major issues to consider about these programs is the difficulty to generalize their results to other populations. As reported, the demographic characteristics (i.e., socio-economic status (SES), family structure (single vs. two-parent family), parental education and race/ethnicity) were unclear (Thomas & Zimmer-Gembeck, 2007). It seems that only two studies within the Triple P intervention included participants with low SES and low parent-education (Hoath & Sanders, 2002; Sanders et al., 2004), whilst the remaining studies only included middle class or higher SES families with middle to high education level. Moreover, both PCIT and Triple P were designed and tested in clinic environments. Therefore, these promising findings cannot be generalized to other families from different race/ethnicities, which presumably may have different family values; or to lower SES families with lower levels of education.

3.1.3. Parenting training among Hispanic populations

Despite the lack of research of parenting training in specific-populations, some research groups have made efforts in disseminating these interventions to community contexts, low-income and ethnically diverse populations (Butler & Eyberg, 2006; Knerr, Gardner, & Cluver, 2013; Petra & Kohl, 2010) including Spanish-speaking Hispanic families (Borrego et al., 2006; Breitenstein et al., 2008; Gross et al., 2009; McCabe, Yeh, Garland, Lau, & Chavez, 2005). Borrego et al. reported that PCIT could be a good intervention if delivered in Spanish, while McCabe and colleagues targeted the intervention to Mexican American families and culturally adapted the

PCIT. A meta-analysis (Knerr et al., 2013) of parenting intervention within low- and middle-income countries (Brazil, Chile, China, Jamaica, Pakistan, Ethiopia, South America and Turkey) suggested these interventions were effective in improving parent-child interaction (i.e., warmth).

Due to the distinctive cultural backgrounds of families, child rearing and parenting practices are integrated within different system of values and beliefs that may differentiate each culture (Garcia-Coll, Meyer, & Brillon, 1995). For instance, Puerto Rican mothers emphasize values such as loyalty, obedience and respect compared to values such as assertiveness, independence or autonomy, more prevalent among White Americans (Gonzalez-Ramos, Zayas, & Cohen, 1998). Moreover, Puerto Rican mothers highlight parenting practices that stimulate a sense of connectedness and individual obligation to others, and practices that structure their children behaviors, which may differ from child-rearing practices from White Americans (Harwood et al., 1996). Therefore, in order to integrate these values and others such as *familismo*, *personalismo* and *respeto*, important for Hispanic families (Guilamo-Ramos et al., 2007), Hispanic culture needs to be brought into parent training (Calzada, 2010).

3.1.4. Parenting training for Puerto Rican families

To our knowledge there is only one research group which has adapted the PCIT for Puerto Rican families of children with ADHD and behavior problems (Matos, Bauermeister, & Bernal, 2009; Matos, Torres, Santiago, Jurado, & Rodriguez, 2006). The intervention was shown acceptable for this population, parents showed high satisfaction and results were maintained over three months. The intervention reduced child behavioral problems and hyperactivity, decreased

parenting stress, and enhanced parenting behaviors and practices endorsing better parent-child relations and display of warmth behaviors. Some difficulties arose during the training such as: 1) ignoring the negative behavior of the children was difficult to implement; 2) mothers were not comfortable using time out techniques and leaving their children alone increased their stress levels; 3) time to achieve goals for each session was higher than the mean.

Future parenting interventions should follow this example and need to take into account some important characteristics for Puerto Rican families: 1) incorporation of key family members, not necessarily the biological parents, who also share child-rearing practices (i.e., grandparents) into the parent-child play time, discipline plans, and daily routines (Calzada, 2010); 2) giving less importance to Anglo values such as punctuality, structure, planned activities or efficiency; 3) recognizing the importance of family relationships, respect and interdependence of family members (Forehand & Kotchick, 2016); 4) providing more time for the achievement of treatment goals, rather than dividing goals in structured number of sessions, training parents until accomplishment of goals regardless of the time it may take; 5) provide more time at the beginning of the sessions engaging in social interactions between parents and therapists, which reflects the importance of increasing rapport and creating a positive therapeutic relationship (García-Preto, 2005); and 6) providing manualized handouts, translated into Spanish and adapting the examples to replicate the day-to-day routines and experiences of Puerto Rican families.

However, this program was only undertaken with Puerto Rican families in Puerto Rico. These families may not have undergone through same stressors related to immigration, acculturation, being a minority that may have faced Puerto Ricans living

in mainland U.S. (i.e., in the South Bronx). Therefore, we highlight the need of studying feasibility and acceptability of parenting training programs for Puerto Ricans living in mainland U.S. taking into account the previous recommendations.

3.2. Addressing service utilization

Finally, after we have reviewed some clinical implications and have proposed parental interventions, we believe it is important to take into account service utilization. Hispanic populations report lower service utilization rates than White Americans (Mancini, Salas-Wright, & Vaughn, 2015; Pumariega, Glover, Holzer, & Nguyen, 1998; Rogler, 1996; Vega et al., 1998; Warner et al., 2001). Thus, even if we can identify evidence-based parenting programs, which are effective in increasing levels of parental warmth and decreasing child behavioral problems; or even if the appropriate cultural modifications have been done to these programs in order to address the needs of a specific ethnic/racial group, it is difficult to implement any intervention if we cannot reach Puerto Rican families.

Some considerations to take into account when disseminating interventions for specific populations are availability, accessibility, accommodation, affordability, and acceptability (Penchansky & Thomas, 1981), which are important features for families to access to services. For example, characteristics to consider are whether there are interventions available at convenient days and times; if interventions are at locations accessible to families; if transportation is provided; if the interventions are affordable to families and interventions' costs are covered by insurance; also whether the interventions are delivered in other languages (i.e., Spanish) when needed; finally, important to consider if child-care is available, especially when single-parent families need intervention and have more children to take care of (Kazdin et al., 1997).

A possibility may be to integrate prevention programs within the school setting. Traditional prevention programs may not be effective with ethnic/culturally diverse sub-groups (Terrell, 1993) because parents from Hispanic communities prefer counseling for youth in school context (James, 1997).

CONCLUSION

CONCLUSION

Main conclusions for each study are the following:

(Study 1) Incorporating PW behaviors such as acceptance, support, and comforting into interventions focused on parenting skills may help prevent child psychiatric disorders.

(Study 2) PW had an individual influence on SU problems beyond the influence of other parenting factors. Promoting interventions focused on parenting skills involving behaviors such as acceptance and support may prevent youth SU.

(Study 3) Context may be an important factor shaping the risk that family dissolution is followed by an internalizing disorder among children.

In summary, our findings build on the literature of parenting and family factors associated with chid development by focusing on how parental warmth exerts a buffering effect on Puerto Rican child psychiatric disorders and youth substance use. Moreover, we show results on the resiliency of Puerto Rican children, who contrary to evidence in other populations do not show behavioural difficulties with greater number of family transitions (i.e., changes in family structure). These results point out the importance of ethnic/racial-specific studies since results neither from the general population, nor from other Hispanic groups may be generalizable to Puerto Rican children. Moreover, within the same cultural group, context may be an important variable to take into account (i.e., Puerto Ricans in Puerto Rico vs. Puerto Ricans in mainland U.S.). Context may be an important factor shaping the risk that a family dissolution is followed by an internalizing disorder; or MDD is more highly influenced by the sociocultural stressors present in contexts like the South Bronx. The

findings presented in this thesis pave the way for a promising area of research with important clinical implications. Offering parenting training through school programs may bolster parental warmth, which is associated with lower odds of child psychiatric disorders.

LIST OF PUBLICATIONS RESULTING FROM THE THESIS

Detailed below are works stemming from this thesis that have been published, are under review in peer-reviewed journals, or that have been presented at conferences and seminars.

Peer-Reviewed Journals:

Santesteban-Echarri, O., Ramos-Olazagasti, M., Eisenberg, R. E., Chiaying, W., Canino, G. J., Bird, H. R. and Duarte, C.S. (2017). Parental warmth and psychiatric disorders among Puerto Rican children in two different socio-cultural contexts. *Journal of Psychiatric Research*. 87; 30-36. http://dx.doi.org/10.1016/j.jpsychires.2016.12.008. **IF: 4.465**

Santesteban-Echarri, O., Eisenberg, R. E., Canino, G. J., Bird, H. R. and Duarte, C.S. (2016) Cohabitation, family transitions and child psychiatric disorders among Puerto Rican children. *Journal of Child and Family Studies*. 25:3417–3429. http://dx.doi.org/10.1007/s10826-016-0498-2. **IF: 1.802**

*Santesteban-Echarri, O., Ramos-Olazagasti, M., Eisenberg, R. E., Canino, G. J., Bird, H. R. and Duarte, C.S. Parental Warmth and Substance Use among Puerto Rican Youth. *Journal of Studies on Alcohol and Drugs. [Under preparation]*

Oral Communications:

Santesteban-Echarri, O. El entorno familiar sí influye. Factores parentales protectores de trastornos psiquiátricos en la infancia y la adolescencia. I Jornadas de Investigación en Salud, Psicología y Psiquiatría. Universitat Rovira i Virgili (URV) and Universidad de Almeria (UAL). 22-23 September, Almería, (Spain).

Santesteban-Echarri, O., Ramos-Olazagasti, M., Eisenberg, R. E., Canino, G., Bird, H. R., and Duarte, C. S. (2015). Calor maternal y su efecto protector sobre trastornos mentales en la infancia. XV Jornadas de ANPIR. Recorriendo el camino. Psicología clínica a lo largo del ciclo vital. May 2015, Madrid (Spain).

*Santesteban-Echarri, O., Ramos-Olazagasti, M., Eisenberg, R. E., Canino, G., Bird, H. R., and Duarte, C. S. (2015). Substance use and the protective effect of maternal warmth. IV International Congress on Dual Disorders. April 2015, Barcelona (Spain).

*Awarded with a Travel Award for best oral communication.

Poster Presentations:

Santesteban-Echarri, O., Ramos-Olazagasti, M., Eisenberg, R. E., Canino, G., Bird, H. R., and Duarte, C. S. (2017). Parenting and alcohol, drugs, tobacco and cannabis use among adolescents in a longitudinal study. 4th International Medicine in Addiction Conference. IMiA17. 24-26 March 2017, Sydney (Australia).

Santesteban-Echarri, O., Ramos-Olazagasti, M., Eisenberg, R. E., Canino, G., Bird, H. R., and Duarte, C. S. (2015). Parent-child relationship in substance using adolescents with substance abusing parents. 16th international ESCAP Congress, "From research to clinical practice: Linking the expertise" of the European Society for Child and Adolescent Psychiatry. June 2015. Madrid (Spain).

Santesteban-Echarri, O., Canino, G., Bird, H. R., and Duarte, C. S. (2014). Maternal warmth and its impact in different child psychiatric disorders among Puerto Rican children. 167th Annual Meeting of the American Psychiatric Association. May 2014, New York (U.S.).

Santesteban-Echarri, O., Eisenberg, R. E., Canino, G., Bird, H. R., and Duarte, C. S. (2014). Family structure and child internalizing and externalizing disorders among Puerto Rican children: A binational study. XVI World Congress of Psychiatry "Focusing on Access, Quality and Human Care". September 2014, Madrid (Spain).

Santesteban-Echarri, O., Canino, G., Bird, H. R., and Duarte, C. S. (2014). Maternal warmth and substance use among Puerto Rican children 104th Annual Meeting "Pursuing Personalized Treatment for Mental Illness" of the American PsychoPathological Association. March 2014, Nueva York (U.S.).

Santesteban-Echarri, O., Canino, G., Bird, H. R., and Duarte, C. S. (2013). Family arrangements and child psychiatric among Puerto Rican children. 60th Annual Meeting of the American Academy of Child & Adolescent Psychiatry. October 2013, Orlando (U.S.).

REFERENCES

REFERENCES

Achenbach, T. M., & Edelbrock, C. S. (1981). Behavioral problems and competencies reported by parents of normal and disturbed children aged 4 through 16. *Monographs of the Society for Research in Child Development*, *46*, 1–82.

Alegria, M., Canino, G., Rios, R., Vera, M., Calderon, J., Rusch, D., & Ortega, A. N. (2002). Inequalities in use of specialty mental health services among Latinos, African Americans, and non-Latino Whites. *Psychiatric Services*, *53*(12), 1547–1555.

Alegria, M., Canino, G., Shrout, P., Woo, M., Duan, N., Vila, D., … Meng, X.-L. (2008). Prevalence of mental illness in inmigrant and non-inmigrant U.S. Latino groups. *American Journal of Psychiatry*, *165*(3), 359–369.

Alegria, M., Canino, G., Stinson, F. S., & Grant, B. F. (2006). Nativity and DSM-IV psychiatric disorders among Puerto Ricans, Cuban Americans, and Non-Latino Whites in the United States: Results from the National Epidemiologic Survey on Alcohol and related conditions. *Journal of Clinical Psychiatry*, *67*, 57–65.

Alegria, M., Carson, N., Goncalves, M., & Keefe, K. (2011). Disparities in treatment for substance use disorders and co-occurring disorders for ethnic/racial minority. *Changes*, *50*(1), 22–31.

Alegría, M., Mulvaney-Day, N., Torres, M., Polo, A., Cao, Z., & Canino, G. (2007). Prevalence of psychiatric disorders across Latino subgroups in the United States. *American Journal of Public Health*, *97*(1), 68–75.

Alegria, M., Mulvaney-Day, N., Woo, M., Torres, M., Gao, S., & Oddo, V. (2007). Correlates of past-year mental health service use among Latinos: Results from the National Latino and Asian American Study. *The American Journal of Public Health*, *97*(1), 76.

Alegría, M., Ph, D., Canino, G., Shrout, P. E., Woo, M., Duan, N., … Meng, X. (2008). Prevalence of mental illness in immigrant and non-immigrant U.S. Latino groups. *American Journal of Psychiatry*, *165*, 359–369.

Alegria, M., Shrout, P. E., Woo, M., Guarnaccia, P., Sribney, W., Vila, D., … Canino, G. (2007). Understanding differences in past year psychiatric disorders for Latinos living in the US. *Social Science & Medicine (1982)*, *65*(2), 214–30.

Amato, P. R. (2000). The consequences of divorce for adults and children. *Journal of Marriage & Family*, *62*, 1269–1287.

Amato, P. R. (2003). Reconciling divergent perspectives: Judith Wallerstein, quantitative family research, and children of divorce. *Family Relations*, *52*(4),

332–339.

Amodeo, M., Robb, N., Peou, S., & Tran, H. (1997). Alcohol and other drug problems among Southeast Asians: Patterns of use and approaches to assessment and intervention. *Alcoholism Treatment Quarterly.*, *15*, 63–67.

Andrews, J. A., Tildesley, E., Hops, H., & Li, F. (2002). The influence of peers on young adult substance use. *Health Psychology*, *21*(4), 349–357.

Andrews-Chavez, J. Y., Lee, C. S., Houser, R. F., Falcon, L. M., & Tucker, K. L. (2015). Factors associated with alcohol consumption patterns in a Puerto Rican cohort. *Public Health Nutrition*, *18*(3), 464–473.

Annie E. Casey Foundation. (2013). *Kids Count: Puerto Rico*. Retrieved from http://datacenter.kidscount.org/data/bystate/ Default.aspx

Arbor, A. (2000). Marital processes and parental socialization in families of color: A decade review of research. *Journal of Marriage and Family*, *62*, 1070–1093.

Arcia, E., Keyes, L., & Gallagher, J. J. (1994). Indicators of developmental and functional status of Mexican-American and Puerto Rican children. *Developmental and Behavioral Pediatrics*, *15*(1), 27–33.

Arcia, E., Reyes-Blanes, M. E., & Vazquez-Montilla, E. (2000). Constructions and reconstructions: Latino parents' values for children. *Journal of Child and Family Studies*, *9*(3), 333–350.

Bachman, H. J., Coley, R. L., & Carrano, J. (2011). Maternal relationship instability influences on children's emotional and behavioral functioning in low-income families. *Journal of Abnormal Child Psychology*, *39*(8), 1149–61.

Bachman, H. J., Coley, R. L., & Carrano, J. (2012). Low-income mothers' patterns of partnership instability and adolescents' socioemotional well-being. *Journal of Family Psychology*, *26*(2), 263–73.

Bachman, J. G., O'Malley, P. M., Johnston, L. D., Schulenberg, J. E., & Wallace, J. M. (2011). Racial/ethnic differences in the relationship between parental education and substance use among U.S. 8th-, 10th-, and 12th-grade students: Findings from the Monitoring the Future project. *Journal of Studies on Alcohol and Drugs*, *72*(2), 279–285.

Bagner, D. M., & Eyberg, S. M. (2003). Father involvement in parent training: When does it matter? *Journal of Clinical Child and Adolescent Psychology*, *32*, 599–605.

Bank, L., Burraston, B., & Snyder, J. (2004). Sibling conflict and ineffective parenting as predictors of adolescent boys' antisocial behavior and peer difficulties: Additive and interactional effects. *Journal of Research on Adolescence*, *14*(1), 99–125.

Barber, B. K., Olsen, J. E., & Shagle, S. C. (1994). Associations between parental psychological and behavioral control and youth internalized and externalized behaviors. *Child Development*, *65*(4), 1120–1136.

Barlow, J., & Stewart-Brown, S. (2000). Behavior problems and group-based parent education programs. *Journal of Developmental and Behavioral Pediatrics*.

Barnett, M. A. (2012). *Extended family support networks of Mexican American mothers of toddlers*. Arizona, US.

Barrera, M., Chassin, L., & Rogosch, F. (1993). Effects of social support and conflict on adolescent children of alcoholic and nonalcoholic fathers. *Journal of Personality and Social Psychology*, *64*(4), 602–612.

Barrio, C., Palinkas, L. A., Yamada, A. M., Fuentes, D., Criado, V., Garcia, P., & Jeste, D. V. (2008). Unmet needs for mental health services for Latino older adults: Perspectives from consumers, family members, advocates, and service providers. *Community Mental Health Journal*, *44*(1), 57–74.

Baumrind, D. (1991a). Effective parenting during the early adolescent transition. In P. A. Cowan & E. M. Hetherington (Eds.), *Family transitions* (pp. 111–163). Hillsdale, NJ: Lawrence Erlbaum.

Baumrind, D. (1991b). The influence of parenting style on adolescent competence and substance use. *The Journal of Early Adolescence*, *11*(1), 56–95.

Baumrind, D. (1996). The discipline controversy revisited. *Family Relations*, *45*, 405–414.

Belsky, J. (1984). The determinants of parenting: A process model. *Child Development*, *55*(1), 83–96.

Bermudez, D. (2008). Adapting Virginia Satir techniques to Hispanic families. *The Family Journal*, *16*(1), 51–57.

Bhui, K., Stansfeld, S., Head, J., Haines, M., Hillier, S., Taylor, S., … Booy, R. (2005). Cultural identity, acculturation, and mental health among adolescents in east London's multiethnic community. *Journal of Epidemiology and Community Health*, *59*, 296–302.

Biederman, J., Faraone, S., Monuteaux, M. C., & Feighner, J. (2000). Patterns of alcohol and drug use in adolescents can be predicted by parental substance use disorders. *Pediatrics*, *106*(4), 792–797.

Biglan, A., Duncan, T. E., Ary, D. B., & Smolkowski, K. (1995). Peer and parental influences on adolescent tobacco use. *Journal of Behavioral Medicine*, *18*, 3115–330.

Bird, H., Canino, G. J., Davies, M., Duarte, C. S., Febo, V., Ram, R., … Loeber, R.

(2006). A study of disruptive behavior disorders in Puerto Rican youth: I. Background, design, and survey methods. *Journal of the American Academy of Child and Adolescent Psychiatry*, *45*(9), 1032–1041.

Bird, H. R., Canino, G. J., Davies, M., Duarte, C. S., Febo, V., Ramirez, R., … Loeber, R. (2006). A study of disruptive behavior disorders in Puerto Rican youth: I. Background, design, and survey methods. *Journal of the American Academy of Child and Adolescent Psychiatry*, *45*(9), 1032–1041.

Bird, H. R., Canino, G. J., Davies, M., Zhang, H., Ramirez, R., & Lahey, B. B. (2001). Prevalence and correlates of antisocial behaviors among three ethnic groups. *Journal of Abnormal Child Psychology*, *29*(6), 465–478.

Bird, H. R., Canino, G., Rubio-Stipec, M., Gould, M. S., Ribera, J., Sesman, M., … Sanchez-Lacay, A. (1988). Estimates of the prevalence of childhood maladjustment in a community survey in Puerto Rico. The use of combined measures. *Archives of General Psychiatry*, *45*, 1120–1126.

Bird, H. R., Canino, G., Rubio-Stipec, M., & Ribera, J. C. (1987). Further measures of the psychometric properties of the Children's Global Assessment Scale. *Archives of General Psychiatry*, *44*(9), 821–824.

Bird, H. R., Davies, M., Duarte, C. S., Shen, S., Loeber, R., & Canino, G. J. (2006). A study of disruptive behavior disorders in Puerto Rican youth: II. Baseline prevalence, comorbidity, and correlates in two sites. *Journal of the American Academy of Child and Adolescent Psychiatry*, *45*(9), 1042–1053.

Bird, H. R., Gould, M. S., & Staghezza, B. (1992). Aggregating data from multiple informants in child psychiaty epidemiological research. *Journal of the American Academy of Child and Adolescent Psychiatry*, *31*(1), 78–85.

Bird, H. R., Shrout, P. E., Davies, M., Canino, G., Duarte, C. S., Shen, S., & Loeber, R. (2007). Longitudinal development of antisocial behaviors in young and early adolescent Puerto Rican children at two sites. *Journal of the American Academy of Child and Adolescent Psychiatry*, *46*(1), 5–14.

Bordis, P. (1959). A familism scale. *Marriage and Family Living*, *21*(4), 340–341.

Borrego, J., Anhalt, K., Terao, S. Y., Vargas, E. C., & Urquiza, A. J. (2006). Parent-Child Interaction Therapy with a Spanish-speaking family. *Cognitive and Behavioral Practice*, *13*(2), 121–133.

Borsari, B., & Carey, K. B. (2001). Peer influences on college drinking: A review of the research. *Journal of Substance Abuse*, *13*(4), 391–424.

Bradley, R. H., & Caldwell, B. M. (1977). Home observation for measurement of the environment: A validation study of screening efficiency. *American Journal of Mental Deficiency*, *81*, 417–420.

Bramlett, M. D., & Moshner, W. D. (2002). *Cohabitation, marriage, divorce, and remarriage in the United States*. (National Center for Health Statistics, Ed.)*Vital Health Statistics* (Vol. 23).

Brauner-Otto, S. R., & Axinn, W. G. (2010). Parental family experiences, the timing of first sex, and contraception. *Social Science Research*, *39*(6), 875–893.

Bravo, M., Ribera, J., Rubio-Stipec, M., Canino, G., Shrout, P., Ramirez, R., … Martinez Taboas, A. (2001). Test-retest reliability of the Spanish version of the Diagnostic Interview Schedule for Children (DISC-IV). *Journal of Abnormal Child Psychology*, *29*(5), 433–444.

Breitenstein, S. M., Gross, D., Fogg, L., Ridge, A., Garvey, C., Julion, W., & Tucker, S. (2008). The Chicago Parent Program: Comparing 1-year outcomes for African American and Latino parents of young children. *Research in Nursing & Health*, *144*(5), 724–732.

Bridges, A. J., Andrews, A. R., Deen, T. L., Andrews III, A. R., & Deen, T. L. (2012). Mental health needs and service utilization by Hispanic immigrants residing in mid-Southern United States. *Journal of Transcultural Nursing*, *23*(4), 359–368.

Britton, M. L. (2014). Latino spatial and structural assimilation: Close intergroup friendships among Houstona-area Latinos. *Journal of Ethnic and Migration Studies*, *40*(8), 1192–1216.

Brody, G. H., & Flor, D. L. (1998). Maternal resources, parenting, practices, and child competence in rural, single-parent African American families. *Child Development*, *69*(3), 803–816.

Bronfenbrenner, U. (1986). Ecology of the family as a context for humandevelopment - Research perspectives. *Developmental Psychology*, *22*(6), 723–742.

Brook, J. S., Whiteman, M., Balka, E. B., & Cohen, P. (1997). Drug use and delinquency: Shared and unshared risk factors in African American and Puerto Rican adolescents. *The Journal of Genetic Psychology*, *158*(1), 25–39.

Brown, A., & Patten, E. (2013). *Hispanics of Puerto Rican Origin in the United States , 2011*. Washington, D.C.

Brown, S. L. (2006). Family structure transitions and adolescent well-being. *Demography*, *43*(3), 447–461.

Brown, S. L. (2010). Marriage and child well-being: Research and policy perspectives. *Journal of Marriage and Family*, *72*(5), 1059–1077.

Bui, H. N. (2012). Immigrant generational status and delinquency in adolescence: Segmented assimilation and racial–ethnic differences. In C. Garcia-Coll & A. K. Marks (Eds.), *The immigrant paradox in children and adolescents: Is becoming Amea developmental risk?* (p. 328). Washington DC: American Psychological

Association.

Bulanda, R. E., & Manning, W. D. (2008). Parental cohabitation experiences and adolescent behavioral outcomes. *Population Research and Policy Review*, *27*(5), 593–618.

Bulcroft, R. A., Carmody, D. C., & Bulcroft, K. A. (1996). Patterns of parental independence giving to adolescents: Variations by race, age, and gender of child. *Journal of Marriage and the Family*, *58*, 866–883.

Bumpass, L., & Lu, H. (2000). Trends in cohabitation and implications for children's family contexts in the United States. *Population Studies*, *54*(1), 29–41.

Bunting, L., & McAuley, C. (2004). Research review. Teenage pregnancy and parenthood: The role of fathers. *Child & Family Social Work*, *9*(3), 295–303.

Burke, H. M., Davis, M. C., Otte, C., & Mohr, D. C. (2005). Depression and cortisol responses to psychological stress: A meta-analysis. *Psychoneuroendocrinology*, *30*(9), 846–856.

Burnam, M. A., Hough, R. L., Karno, M., Escobar, J. I., & Telles, C. A. (1987). Acculturation and lifetime prevalence of psychiatric disorders among Mexican Americans in Los Angeles. *Journal of Health and Social Behavior*, *28*(1), 89–102.

Buschgens, C. J. M., Van Aken, M. A. G., Swinkels, S. H. N., Ormel, J., Verhulst, F. C., & Buitelaar, J. K. (2010). Externalizing behaviors in preadolescents: Familial risk to externalizing behaviors and perceived parenting styles. *European Child and Adolescent Psychiatry*, *19*(7), 567–575.

Butler, A. M., & Eyberg, S. M. (2006). Parent–child interaction therapy and ethnic minority children. *Vulnerable Children and Youth Studies*, *1*, 246–255.

Caetano, R., & Clark, C. L. (1999). Trends in situational norms and attitudes toward drinking among Whites, Blacks, and Hispanics: 1984-1995. *Drug and Alcohol Dependence*, *54*(1), 45–56.

Caetano, R., & Galvan, F. H. (2001). Alcohol use and alcohol-related problems among Latinos in the United States. In M. Aguirre-Molina, C. W. Molina, & R. E. Zambrana (Eds.), *Health issues in the Latino community* (pp. 383–412). San Francisco, CA: Jossey- Bass.

Caetano, R., Ramisetty-Mikler, S., & Rodriguez, L. (2008). The Hispanic Americans Baseline Alcohol Survey (HABLAS): Rates and predictors of alcohol abuse and dependence across Hispanic national groups. *Changes*, *69*(3), 441–448.

Caetano, R., Ramisetty-Mikler, S., & Rodriguez, L. A. (2009). The Hispanic Americans Baseline Alcohol Survey (HABLAS): The association between birthplace, acculturation and alcohol abuse and dependence across Hispanic

national groups. *Drug and Alcohol Dependence*, *99*(1-3), 215–221.

Caetano, R., Vaeth, P. A. C., & Canino, G. (2016). Prevalence and predictors of drinking, binge drinking, and related health and social problems in Puerto Rico. *The American Journal on Addictions*, *25*, 478–485.

Calzada, E. J. (2010). Bringing culture into parent training with Latinos. *Cognitive and Behavioral Practice*, *17*(2), 167–175.

Calzada, E. J., & Eyberg, S. M. (2002). Self-reported parenting practices in Dominican and Puerto Rican mothers of young children. *Journal of Cinical Child and Adolescent Psychology*, *31*(3), 354–363.

Calzada, E. J., Eyberg, S. M., Rich, B., & Querido, J. G. (2004). Parenting disruptive preschoolers: Experiences of mothers and fathers. *Journal of Abnormal Child Psychology*, *32*(2), 203–213.

Calzada, E. J., Tamis-LeMonda, C. S., & Yoshikawa, H. (2012). Familismo in Mexican and Dominican families from low-income, urban communities. *Journal of Family Issues*, *34*(12), 1696–1724.

Camisa, Z. (1978). La nupcialidad de las mujeres solteras en la América Latina. *Notas de Población*, *18*, 9–76.

Campo, T., & Rohner, R. P. (1992). Relationships between perceived parental acceptance-rejection, psychological adjustment, and substance abuse among young adults. *Child Abuse Negl.*, *16*, 429–440.

Campos, B., Ullman, J. B., Aguilera, A., & Dunkel Schetter, C. (2014). Familism and psychological health: The intervening role of closeness and social support. *Cultural Diversity & Ethnic Minority Psychology*, *20*(2), 191–201.

Canabal, M. E., & Quiles, J. A. (1995). Acculturation and socioeconomic factors as determinants of depression among Puerto Ricans in the United States. *Social Behavior and Personality*, *23*(3), 235–248.

Canino, G., Anthony, J. C., Freeman, D. H., Shrout, P., & Rubio-Stipec, M. (1993). Drug abuse and illicit drug use in Puerto Rico. *Public Health*, *83*(2), 194–201.

Canino, G., Bird, H., Rubio, M., Geil, K., Bravo, M., & Shrout, P. (1993). Prevalence of alcohol abuse and dependence in Puerto Rico. In *Alcohol use among U.S. ethnic minorities* (pp. 179–190). Rockville, MD: U.S. Department of Health and Human Services.

Canino, G., Bird, H., Rubio-Stipec, M., Geil, K., & Bravo, M. (1989). The prevalence of alcohol abuse and dependence in Puerto Rico. In D. Spiegler, D. A. Tate, S. Aitken, & C. San (Eds.), *Alcohol use among US ethnic minorities*. (pp. 127–144). Washington, DC: US Government Printing Office.

Canino, G., Burnam, M. A., & Caetano, R. (1992). The prevalence of alcohol abuse and/or dependence in two Hispanic communities. In J. E. Helzer & G. J. Canino (Eds.), *Alcoholism in North America, Europe and Asia* (pp. 31–155). New York, NY: Oxford University Press.

Canino, G. J., Bird, H. R., Shrout, P. E., Rubio-Stipec, M., Bravo, M., Martinez, R., … Guevara, L. M. (1987). The prevalence of specific psychiatric disorders in Puerto Rico. *Archives of General Psychiatry*, *44*(8), 727.

Canino, G., Shrout, P. E., Rubio-Stipec, M., Bird, H. R., Bravo, M., Ramírez, R., … Martínez-Taboas, A. (2004). Rates of child and adolescent disorders in Puerto Rico. *Archives of General Psychiatry*, *61*, 85–93.

Capaldi, D. M., & Patterson, G. R. (1991). Relation of parental transitions to boys adjustment problems. I. A linear hypothesis. II. Mothers at risk for transitions and unskilled parenting. *Developmental Psychology*, *27*(3), 489–504.

Carlson, M. J., & Corcoran, M. E. (2001). Family structure and children's behavioral and cognitive outcomes. *Journal of Marriage and Family*, *63*(3), 779–792.

Cartwright-Hatton, S., Roberts, C., Chitsabesan, P., Fothergill, C., & Harrington, R. (2004). Systematic review of the efficacy of cognitive behaviour therapies for childhood and adolescent anxiety disorders. *The British Journal of Clinical Psychology*, *43*, 421–436.

Castro Martin, T. C. (2002). Consensual unions in Latin America. Persistence of a dual nuptiality system. *Journal of Comparative Family Studies*, *33*(1), 35–56.

Cauce, A. M., & Domenech-Rodriguez, M. (2002). Latino families: Myths and realities. In J. M. Contreras, K. A. Kerns, & A. Neal-Barnett (Eds.), *Latino children and families in the United States: Current research and future directions* (pp. 3–25). New York: Praeger.

Cavanagh, S. E. (2008). Family structure history and adolescent adjustment. *Journal of Family Issues*, *29*(7), 944–980.

Cavanagh, S. E., & Fomby, P. (2012). Family instability, school context, and the academic careers of adolescents. *Sociology of Education*, *85*(1), 81–97.

Cavanagh, S. E., & Huston, A. C. (2006). Family instability and children's early problem behavior. *Social Forces*, *85*(1), 551–581.

Cavanagh, S. E., & Huston, A. C. (2008). The timing of family instability and children's social development. *Journal of Marriage and Family*, *70*, 1258–1269.

Ceballo, R., & McLoyd, V. C. (2002). Social support and parenting in poor, dangerous neighborhoods. *Child Development*, *73*(4), 1310–21.

Center for Substance Abuse Treatment. (2000). *Substance abuse treatment for*

persons with child abuse and neglect issues. Rockville, MD:Substance Abuse and Mental Health Services Administration (US); 2000. (Treatment Improvement Protocol (TIP) Series, No. 36.). Retrieved from http://www.ncbi.nlm.nih.gov/books/NBK64901/

Cervantes, R. C., Padilla, A. M., & Desnyder, N. S. (1990). Reliability and validity of the Hispanic Stress Inventory. *Hispanic Journal of Behavioral Sciences*, *12*, 76–82.

Cervantes, R. C., Padilla, A. M., & Salgado de Snyder, N. (1991). The Hispanic Stress Inventory: A culturally relevant approach to psychosocial assessment. *Psycholgical Assessment*, *3*, 438–447.

Chacko, A., Wymbs, B. T., Wymbs, F. a, Pelham, W. E., Swanger-Gagne, M. S., Girio, E., … O'Connor, B. (2009). Enhancing traditional behavioral parent training for single mothers of children with ADHD. *Journal of Clinical Child and Adolescent Psychology*, *38*(2), 206–18.

Cherlin, A. (2010). Demographic trends in the United States: A review of research in the 2000s. *Journal of Marriage and Family*, *72*(3), 403–419.

Cherlin, A. J. (2009). *The marriage-go-round: The state of marriage and the family in America today.* New York, NY: Knopf Publishing.

Cherlin, A. J., Chase-Lansdale, P. L., & Mcrae, C. (1998). Effects of parental divorce on mental health throughout the life course. *American Sociological Review*, *63*(2), 239–249.

Cherlin, A. J., Furstenberg, F. F., Chase-Lansdale, L., Kiernan, K. E., Robins, P. K., Morrison, D. R., & Teitler, J. O. (1991). Longitudinal studies of effects of divorce on children in Great Britain and the United States. *Science (New York, N.Y.)*, *252*(5011), 1386–9.

Chinchilla, M. A., & Kosson, D. S. (2016). Psychopathic traits moderate relationships between parental warmth and adolescent antisocial and other high-risk behaviors. *Criminal Justice and Behavior*, *43*(6), 722–738.

Cohen, S., & Wills, T. A. (1985). Stress, social support, and the buffering hypothesis. *Psychological Bulletin*, *98*(2), 310–357.

Coleman, M., Ganong, L., & Fine, M. (2000). Reinvestigating remarriage: Another decade of progress. *Journal of Marriage and Family*, *62*, 1288–1307.

Colon, H. M., Robles, R. R., Canino, G., & Shahai, H. (2002). Prevalence and correlates of DSM-IV substance use disorders in Puerto Rico. *Boletin de La Associacion Medica de Puerto Rico*, *93*, 12–22.

Conway, K. P., Swendsen, J. D., Dierker, L., Canino, G., & Merikangas, K. R. (2007). Psychiatric comorbidity and acculturation stress among Puerto Rican

substance abusers. *American Journal of Preventive Medicine*, *32*(6).

Coohey, C. (2001). The relationship between familism and child maltreatment in Latino and Anglo families. *Child Maltreatment*, *6*(2), 130–142.

Cortes, D. (1995). Variations in familism in two generations of Puerto Ricans. *Hispanic Journal of Behavioral Sciences*, *17*(2), 249–255.

Costello, E. J., Angold, A., Burns, B. J., Stangl, D. K., Tweed, D. L., Erkanli, A., & Worthman, C. (1996). The Great Smoky Mountains Study of Youth. *Archives of General Psychiatry*, *53*, 1129–1136.

Costello, E. J., He, J., Sampson, N. A., Kessler, R. C., & Merikangas, K. R. (2014). Services for adolescents with psychiatric disorders: 12-month data from the National Comorbidity Survey-Adolescent. *Psychiatric Services (Washington, D.C.)*, *65*(3), 359–66.

Costello, E. J., Mustillo, S., Erkanli, A., Keeler, G., & Angold, A. (2003). Prevalence and development of psychiatric disorders in childhood and adolescence. *Archives of General Psychiatry*, *60*, 837–844.

Cox, M. J., & Paley, B. (2003). Understanding families as systems. *Current Directions in Psychological Science*, *12*(5), 193–196.

Crawford, L. A., & Novak, K. B. (2008). Parent child relations and peer associations as mediators of the family structure substance use relationship. *Journal of Family Issues*, *29*(2), 155–184.

Crouter, A. C., MacDermid, S. M., McHale, S. M., & Perry-Jenkins, M. (1990). Parental monitoring and perceptions of children's school performance and conduct in dual-and single-earner families. *Developmental Psychology*, *26*(4), 649–657.

Crouter, A., & Head, M. (2002). Parental monitoring and knowledge of children. In M. Bornstein (Ed.), *Handbook of parenting* (2nd ed., pp. 461–483). Mahwah, NJ: Lawrence Erlbaum.

Crum, R. M., Green, K. M., Storr, C. L., Chan, Y.-F., Ialongo, N., Stuart, E. A., & Anthony, J. C. (2008). Depressed mood in childhood and subsequent alcohol use through adolescence and young adulthood. *Archives of General Psychiatry*, *65*(6), 702–712.

Cummings, E. M., & Davies, P. (1996). Emotional security as a regulatory process in normal development and the development of psychopathology. *Development and Psychopathology*, *8*, 123–139.

Cummings, E.M., & Wilson, A. (1999). Contexts of marital conflict and children's emotional security: Exploring the distinction between constructive and destructive conflict from the children's perspective. In M. (Eds.),. In M. Cox &

J. Brooks-Gunn (Eds.), *Conflict and closeness in families: Causes and consequences* (pp. 105–129). Mahwah, N.J: Erlbaum.

Cumsille, P., Martínez, M. L., Rodríguez, V., & Darling, N. (2015). Parental and individual predictors of trajectories of depressive symptoms in Chilean adolescents. *International Journal of Clinical and Health Psychology*, *15*(3), 208–216.

D'Amico, E. J. D., Ellickson, P. L., Collins, R. L., Martino, S., & Klein, D. J. (2005). Processes linking adolescent problems to substance-use problems in late young adulthood. *Journal of Studies on Alcohol*, *66*, 766–775.

Darling, N., & Steinberg, L. (1993). Parenting style as a context: An integrative model. *Psychological Bulletin*, *113*(3), 487–496.

Dawson, D. A., Goldstein, R. B., Saha, T. D., & Grant, B. F. (2015). Changes in alcohol consumption: United States, 2001-2 to 2012-13. *Drug and Alcohol Dependence*, *0*, 56–61.

Dawson, D. A., & Grant, B. F. (2011). The "gray area" of consumption between moderate and risk drinking. *Journal of Studies on Acohol and Drugs*, *72*(3), 453–458.

de Vries, H., Candel, M., Engels, & Mercken, L. (2006). Challenges to the peer influence paradigm: Results for 12-13 year olds from six European countries from the European Smoking Prevention Framework Approach study. *Tob Control*, *15*(2), 83–89.

Deleire, T., & Kalil, A. (2002). Good things come in threes: Single-parent multigenerational family structure and adolescent adjustment. *Demography*, *39*(2), 393–413.

DeWit, D. J., Offord, D. R., & Wong, M. (1997). Patterns of onset and cessation of drug use over the early part of the life course. *Health and Education Behavior*, *24*, 746–758.

Dishion, T. J., & McMahon, R. J. (1998). Parental monitoring and the prevention of child and adolescent problem behavior: A conceptual and empirical formulation. *Clinical Child and Family Psychology Review*, *1*(1), 61–75.

Dishon, T. J., Capaldi, D., Spracklen, K. M., & Li, F. (1995). Peer ecology of male adolescent drug use. *Development and Psychopathology*, *7*, 803–824.

Domenech, M. M., Franceschi, N., Sella, Z., & Félix, J. (2013). Parenting in Puerto Rican families: Mothers and father's self-reported practices. *Interamerican Journal of Psychology*, *47*(2), 299–311.

Donahue, K. L., D'Onofrio, B. M., Bates, J. E., Lansford, J. E., Dodge, K. A., & Pettit, G. S. (2010). Early exposure to parents' relationship instability:

Implications for sexual behavior and depression in adolescence. *The Journal of Adolescent Health*, *47*(6), 547–54.

Driscoll, A. K., Russell, S. T., & Crockett, L. J. (2007). Parenting styles and youth well-being across immigrant generations. *Journal of Family Issues*, *29*(2), 185–209.

Duany, J. (2002). *Puerto Rican nation on the move: Identities of the Island and in the United States.* U.S.A.: University of North Carolina Press.

Duarte, C. S., Bird, H. R., Shrout, P. E., Wu, P., Lewis-Fernandez, R., Shen, S., & Canino, G. (2008). Culture and psychiatric symptoms in Puerto Rican children: Longitudinal results from one ethnic group in two contexts. *Journal of Child Psychology and Psychiatry*, *49*(5), 563–572.

Duarte, C. S., Bird, H. R., Shrout, P. E., Wu, P., Lewis-Fernandez, R., Shen, S., & Canino, G. (2008). Culture and psychiatric symptoms in Puerto Rican children: Longitudinal results from one ethnic group in two contexts. *Journal of Child Psychology and Psychiatry*, *49*(5), 563–572.

Dunifon, R., & Kowaleski-Jones, L. (2002). Who's in the house? Race differences in cohabitation, single parenthood, and child development. *Child Development*, *73*(4), 1249–1264.

Durand, J., Telles, E., & Flashman, J. (2006). The demographic foundations of the Latino population. In M. Tienda & F. Mitchell (Eds.), *Hispanics in the United States*. Washington DC: National Academies Press.

Eamon, M. K., & Mulder, C. (2005). Predicting antisocial behavior among latino young adolescents: An ecological systems analysis. *The American Journal of Orthopsychiatry*, *75*(1), 117–27.

Eaton, D. K., Kann, L., Kinchen, S., Shanklin, S., Flint, J., Hawkins, K. H., & Wechler, H. (2011). *Youth risk behavior surveillance-United States, 2011 (Morbidity and Mortality Weekly Report, 59)*. Atlanta, United States. Retrieved from http://www.cdc.gov/mmwr/preview/mmwrhtml/ss6104a1.htm

Eddy, J. M., Leve, L. D., & Fagot, B. I. (2001). Coercive family processes: A replication and extension of Patterson's Coercion Model. *Aggressive Behavior*, *27*, 14–25.

Ennis, S. R., Rios-Vargas, M., & Albert, N. G. (2011). *The Hispanic population: 2010. U.S. Census Bureau*. Retrieved from http://www.census.gov/prod/cen2010/briefs/c2010br-04.pdf

Essau, C. A., Conradt, J., Sasagawa, S., & Ollendick, T. H. (2012). Prevention of anxiety symptoms in children: Results from a universal school-based trial. *Behavior Therapy*, *43*(2), 450–464.

Ewing, B. A., Osilla, K. C., Pedersen, E. R., Hunter, S. B., Miles, J. N. V., & D'Amico, E. J. (2015). Longitudinal family effects on substance use among an at-risk adolescent sample. *Addictive Behaviors*, *41*, 185–191.

Federal Interagency Forum on Child and Family Statistics. (2013). *America's children: Key national indicators of well-being*. Washington, DC: U.S. Government Printing Office.

Fendrich, M., & Vaughn, C. M. (1994). Diminished lifetime substance use over time. An inquiry into differential under-reporting. *Public Opinion Quarterly*, *58*, 96–123.

Finkelhor, D., & Dziuba-Leatherman, J. (1994). Children as victims of violence: A national survey. *Pediatrics*, *94*, 413–420.

Fitzsimons, E., Goodman, A., Kelly, E., & Smith, J. P. (2016). Poverty dynamics and parental mental health: Determinants of childhood mental health in the UK. *Social Science & Medicine*, *175*, 43–51.

Flannery, D. J., Vazsonyi, A. T., Torquati, J., & Fridrich, A. (1994). Ethnic and gender differences in risk for early adolescent substance use. *Journal of Youth and Adolescence*, *23*, 195–213.

Fletcher, A. C., Steinberg, L., & Williams-Wheeler, M., Fletcher, A. C., Steinberg, L., & Williams-Wheeler, M. (2004). Parental Influences on adolescent problem behavior: Revisiting Stattin and Kerr. *Child Development*, *75*(3), 781–796.

Flisher, A. J., Kramer, R. A., Grosser, R. C., Alegria, M., Bird, H. R., Bourdon, K. H., … Hoven, C. W. (1997). Correlates of unmet need for mental health services by children and adolescents. *Psychological Medicine*, *27*(5), 1145–1154.

Flores, E., Eyre, S., & Millstein, S. G. (1998). Sociocultural beliefs related to sex among Mexican American adolescents. *Hispanic Journal of Behavioral Sciences*, *20*, 60–68.

Flores, G., & Brotanek, J. (2005). The healthy immigrant effect. *Archives of Pediatrics & Adolescent Medicine*, *159*, 295–297.

Flores, G., Fuentes-afflick, E., Carter-pokras, O., Claudio, L., Lara, M., Mclaurin, J. A., … Weitzman, M. (2002). The health of Latino children: Urgent priorities, unanswered questions, and a research Agenda. *JAMA Psychiatry*, *288*(1), 82.

Folbre, N. (1991). *Mothers on their own: Policy issues for developing countries*. New York: The Population Council. International Center for Research on women.

Fomby, P., & Cherlin, A. J. (2007). Family instability and child well-being. *American Sociological Review*, *72*(2), 181–204.

Fomby, P., & Estacion, A. (2011). Cohabitation and children's externalizing behavior

in low-income Latino families. *Journal of Marriage and Family*, *73*(1), 46–66.

Fomby, P., Mollborn, S., & Sennott, C. A. (2010). Race/ethnic differences in effects of family instability on adolescents' risk behavior. *Journal of Marriage and Family*, *72*(2), 234–253.

Forehand, R., & Kotchick, B. A. (2016). Cultural diversity: A wake-up call for parent training – Republished article. *Behavior Therapy*, *47*(6), 981–992.

Forgatch, M. S., Degarmo, D. S., & Beldavs, Z. G. (2005). An efficacious theory-based intervention for stepfamilies. *Behavior Therapy*, *36*(4), 357–65.

Forman, E. M., & Davies, P. T. (2003). Family instability and young adolescent maladjustment: The mediating effects of parenting quality and adolescent appraisals of family security. *Journal of Clinical Child and Adolescent Psychology*, *32*(1), 94–105.

Foster, E. M., & Kalil, A. (2007). Living arrangements and children's development in low-income White, Black, and Latino families. *Child Development*, *78*(6), 1657–74.

Fracasso, M. P., Busch-Rossnagel, N. A., & Fisher, C. B. (1994). The relationship of maternal bahavior and acculturaton to the quality of attachment in Hispanic infants living in New York City. *Hispanic Journal of Behavioral Sciences*, *16*(2), 143–154.

Gallisá, C. (2010). *Desde Lares. 3ra Edición*. Puerto Rico: CG Editores.

García, C. M., Gilchrist, L., Vazquez, G., Leite, A., & Raymond, N. (2011). Urban and rural immigrant latino youths' and adults' knowledge and beliefs about mental health resources. *Journal of Immigrant and Minority Health*, *13*(3), 500–509.

Garcia Coll, C. G. E., & Marks, A. K. E. (2012). *The immigrant paradox in children and adolescents: Is becoming American a developmental risk?* Washington, DC: American Psychological Association.

Garcia Coll, C. T. (1990). Developmental outcome of minority infants: A process-oriented look into our beginnings. *Child Development*, *61*(2), 270–289.

Garcia, J. M., & Montgomery, P. A. (1991). *The Hispanic population in the United States: March 1990. Current Population Reports Series P-20, No. 449*. Washington, DC: U.S. Govemment Printing Office.

García Leduc, J. M. (2003). *Apuntes para una historia breve de Puerto Rico: Desde la prehistoria hasta 1898 (2nd ed.)*. San Juan: Editorial Isla Negra.

García-Coll, C., Lamberty, G., Jenkins, R., Pipes-McAdoo, H., Crnic, K., Wasik, B. H., & Vázquez, H. (1996). An integrative model for the study of competencies in

minority children. *Child Development*, *67*(5), 1891–1914.

Garcia-Coll, C. T., Meyer, E. C., & Brillon, L. (1995). Ethnic and minority parenting. In M. H. Bornstein (Ed.), *Handbook of parenting. Vol. II* (pp. 189–210). Hillsdale, NJ: Erlbaum.

García-Preto, N. (2005). Puerto Rican families. In M. McGoldrick, J. Giordano, & N. García-Preto (Eds.), *Ethnicity and family therapy* (3rd ed., pp. 242–255). New York: Guilford Press.

Giachello, A. (1994). Issues of access and use. In C. W. Molina & M. Aguirre-Molina (Eds.), *Latino health in the U.S.: A growing challenge*. Washington, DC: American Public Health Association.

Gil, A. G., & Vega, W. A. (1996). Two different worlds: Acculturation stress and adaptation among Cuban and Nicaraguan families. *Journal of Social and Personal Relationships*, *13*(3), 435–456.

Gil, A. G., Vega, W. A., & Dimas, J. M. (1994). Acculturative stress and personal adjustment among Hispanic adolescent boys. *Journal of Community Psychology*, *22*, 43–54.

Gil, A. G., Wagner, E. F., & Vega, W. A. (2000). Acculturation, familism and alcohol use among Latino adolescent males: Longitudinal relations. *Journal of Community Psychology*, *28*(4), 443–458.

Ginorio, A., Gutierrez, L., Cauce, A. M., & Acosta, M. (1995). The psychology of Latinas. In C. Travis (Ed.), *Feminist perspectives on the psychology of women* (pp. 331–342). Washington, DC: American Psychological Association.

Ginsburg, G. S., Sakolsky, D., Piacentini, J., Walkup, J. T., Coffey, K. A., Keeton, C. P., … March, J. (2012). Remission after acute treatment in children and adolescents with anxiety disorders: Findings from the CAMS. *Journal of Consulting and Clinical Psychology*, *79*(6), 806–813.

Gloria, A. M., & Peregoy, J. J. (1996). Counseling Latino alcohol and other substance users / abusers. Cultural considerations for counselors. *Journal of Substance Abuse Treatment*, *13*(2), 119–126.

Goldberg, R. E. (2013). Family instability and early initiation of sexual activity in Western Kenya. *Demography*, *50*(2), 725–750.

Gonzalez-Ramos, G., Zayas, L. H., & Cohen, E. V. (1998). Child-rearing values of low-income, urban Puerto Rican mothers of preschool children. *Professional Psychology: Research and Practice*, *29*(4), 377–382.

Good, M. D., Smilkstein, G., Good, B. J., Shaffer, T., & Arons, T. (1979). The family APGAR Indices: A study of construct validity. *Journal of Family Practice*, *8*, 577–582.

Goodman, S. H., Hoven, C. W., Narrow, W. E., Cohen, P., Fielding, B., Alegria, M., … Dulcan, M. K. (1998). Measurement of risk for mental disorders and competence in a psychiatric epidemiologic community survey: The NIMH Methods for the Epidemiology of Child and Adolescent mental disorders (MECA) Study. *Social Psychiatry and Psychiatric Epidemiology*, *33*(4), 162–173.

Goodnight, J. A., D'Onofrio, B. M., Cherlin, A. J., Emery, R. E., Van Hulle, C. A., & Lahey, B. B. (2013). Effects of multiple maternal relationship transitions on offspring antisocial behavior in childhood and adolescence: A cousin-comparison analysis. *Journal of Abnormal Child Psychology*, *41*(2), 185–98.

Gordon, A. (1993). State-of-the-Art Review: Caribbean Hispanics and their alcohol use. In *Alcohol use among U.S. ethnic minorities* (p. 470). Rockville, MD: U.S. Department of Health and Human Services.

Gordon, A. J. (1981). The cultural context of drinking and indigenous therapy for alcohol problems in three migrant Hispanic cultures. *Journal of Studies on Alcohol*, *9*, 217–240.

Gordon, A. J. (1985). Alcohol and Hispanics in the Northeast: A study of cultural variability and adaptation in alcohol use. In L. A. Bennett & G. M. Ames (Eds.), *The American experience with alcohol: Contrasting cultural perspectives* (pp. 297– 313). New York, NY: Plenum.

Gordon, A. J. (1989). State of the art review: Caribbean Hispanics and their alcohol use. In *Alcohol use among U.S. ethnic minorities (NIAAA Research Monograph)* (pp. 135–146). Rockville, MD: Alcohol, Drug Abuse and Mental Health Administration.

Gottman, J. M., Katz, L. F., & Hooven, C. (1997). *Meta-emotion: How families communicate emotionally.* Mahwah, N.J: Lawrence Erlbaum Associates.

Granic, I., & Patterson, G. R. (2006). Toward a comprehensive model of antisocial development: A dynamic systems approach. *Psychological Review*, *113*(1), 101–131.

Griffith, J. D., Joe, G. W., Chatham, L. R., & Simpson, D. D. (1998). The development and validation of the Simpatía Scale for Hispanics entering drug treatment. *Hispanic Journal of Behavioral Sciences*, *20*(4), 468–482.

Gross, D., Garvey, C., Julion, W., Fogg, L., Tucker, S., & Mokros, H. (2009). Efficacy of the Chicago Parent Program with low-income African American and Latino parents of young children. *Prevention Science*, *10*(1), 54–65.

Gudiño, O. G., Lau, A. S., & Hough, R. L. (2008). Immigrant status, mental health need, and mental health service utilization among high-risk Hispanic and Asian Pacific Islander youth. *Child and Youth Care Forum*, *37*(3), 139–152.

Guendelman, S., & Wagner, T. H. (2000). Health services utilization among Latinos and White non-Latinos: Results from a national survey. *Journal of Health Care Poor Underserved*, *11*(2), 179–194.

Guilamo-Ramos, V., Dittus, P., Jaccard, J., Johansson, M., Bouris, A., & Acosta, N. (2007). Parenting practices among Dominican and Puerto Rican mothers. *Social Work*, *52*(1), 17–30.

Hale, W. W., VanderValk, I., Akse, J., & Meeus, W. (2008). The interplay of early adolescents' depressive symptoms, aggression and perceived parental rejection: A four-year community study. *Journal of Youth and Adolescence*, *37*(8), 928–940.

Hankin, B. L., & Abramson, L. Y. (2001). Development of gender differences in depression: An elaborated cognitive vulnerability-transactional stress theory. *Psychological Bulletin*, *127*(6), 773–796.

Hanson, T. L., McLanahan, S. S., & Thomson, E. (1998). Windows on divorce: Before and after. *Social Science Research*, *27*(3), 329–349.

Hao, L., & Xie, G. (2001). The complexity and endogeneity of family structure in explaining children's misbehavior. *Social Science Research*, *31*(1), 1–28.

Harrison, L., & Ungerer, J. A. (1997). Child care predictors of infant-mother attachment security at age 12 months. *Early Child Development and Care*, *137*(1), 31–46.

Harter, S. (1982). The perceived competence scale for children. *Child Development*, *53*(87-97).

Harwood, R. L., Sehoelmerieh, A., Yentnra-cook, E., Schulze, P. A., & Wilson, S. P. (1996). Culture and class influences on Anglo and Puerto Rican mothers' beliefs regarding long-term socialization goals and child behavior. *Child Development*, *67*, 2446–2461.

Heard, H. E. (2007). Fathers, mothers, and family structure: Family trajectories, parent gender, and adolescent schooling. *Journal of Marriage and Family*, *69*, 435–450.

Heim, C. M., & Nemeroff, C. B. (2001). The role of childhood trauma in the neurobiology of mood and anxiety disorders: Preclinical and clinical studies. *Biological Psychiatry*, *49*(12), 1023–1039.

Hembree-Kigin, T. L., & McNeil, C. B. (1995). *Parent-Child Interaction Therapy.* New York: Plenum Press.

Hetherington, E. M., Bridges, M., & Insabella, G. M. (1998). What matters? What does not? Five perspectives on the association between marital transitions and children's adjustment. *American Psychologist*, *53*(2), 167–184.

Hill, M. S., Yeung, W. J., & Duncan, G. J. (2001). Childhood family structure and young adult behaviors. *Journal of Population Economics*, *14*(2), 271–299.

Hispania Research Corporation. (1993). *Memorando analítico sobre el estudio del idioma en Puerto Rico.* San Juan, Puerto Rico: Ateneo Puertorriqueño.

Hoath, F. E., & Sanders, M. R. (2002). A feasibility study of enhanced group Triple P-Positive Parenting Program for parents of children with attention-deficit/hyperactivity disorder. *Behaviour Change*, *19*(4), 191–206.

Hoffman, C., & Pohl, M. (2000). *Health insurance coverage in America: 1999 data update*.

Hollenstein, T., Granic, I., Stoolmiller, M., & Snyder, J. (2004). Rigidity in parent-child interactions and the development of externalizing and internalizing behavior in early childhood. *Journal of Abnormal Child Psychology*, *32*(6), 595–607.

Horn, I. B., Cheng, T. L., & Joseph, J. (2004). Discipline in the African American community: The impact of socioeconomic status on beliefs and practices. *Pediatrics*, *113*(5), 1236–1241.

Hough, R. L., Hazen, A. L., Soriano, F. I., Wood, P., McCabe, K., & Yeh, M. (2002). Mental health services for Latino adolescents with psychiatric disorders. *Psychiatric Services*, *53*(12), 1556–1562.

Huang, C. Y., Costeines, J., Ayala, C., & Kaufman, J. S. (2014). Parenting stress, social support, and depression for ethnic minority adolescent mothers: Impact on child development. *Journal of Child and Family Studies*, *23*(2), 255–262.

Hudson, W. W. (1982). Methodological observations on applied behavioral science. A measurment package for clinical workers. *The Journal of Applied Behavioural Science*, *18*(2), 229–38.

Hughes, T. L., Day, L. E., Marcantonio, R. J., & Torpy, E. (1997). Gender differences in alcohol and other drug use among young adults. *Substance Use & Misuse*, *32*(3), 317–42.

Hunter-Reel, D., Mccrady, B., & Hildebrandt, T. (2010). Emphasizing interpersonal factors: An extension of the Witkiewitz and Marlatt relapse model. *Addiction*, *104*(8), 1281–1290.

Huurre, T., Lintonen, T., Kaprio, J., Pelkonen, M., Marttunen, M., & Aro, H. (2010). Adolescent risk factors for excessive alcohol use at age 32 years. A 16-year prospective follow-up study. *Social Psychiatry and Psychiatric Epidemiology*, *45*(1), 125–134.

Inclan, J. E., & Erron, D. G. (1990). Puerto Rican adolescents. In J. T. Gibbs & L. N. Huang (Eds.), *Children of color* (pp. 251–279). San Francisco: Jossey-Bass.

Jambunathan, S., & Counselman, K. P. (2002). Parenting attitudes of Asian Indian mothers living in the United States and in India. *Early Child Development and Care*, *172*(6), 657–662.

James, D. C. (1997). Coping with a new society: The unique psychosocial problems of immigrant youth. *The Journal of School Health*, *67*(3), 98–102.

Jelin, E. (1992). Calibacy, solitude and personal autonomy: Individual choice and social constraints. In E. In Bequeró & P. Xenos (Eds.), *Family systems and cultural change.* (pp. 109–124). Oxford: Claredon Press.

Jennings, W. G., Maldonado-Molina, M. M., Piquero, A. R., Odgers, C. L., Bird, H., & Canino, G. (2010). Sex differences in trajectories of offending among Puerto Rican youth. *Crime and Delinquency*, *56*(3), 327–357.

Jiménez, A. L., Alegría, M., Peña, M., & Vera, M. (1997). Mental health utilization in women with symptoms of depression. *Women & Health*, *25*(2), 1–21.

Johnson McCutcheon S., J. H. (1980). Assessing life stress in older children and adolescents: Preliminary findings with the Life Events Checklist. In I. G. Sarason Spielberg, C.D. (Eds.) (Ed.), *Stress and Anxiety*. Washington, DC: Hemisphere.

Johnston, L. D., O'Malley, P. M., & Bachman, J. G. (2003). *Monitoring the future: National survey results on drug use 1975-2002 (NIH Publication No. 03-5375)* (Vol. I). Bethesda, MD: National Institute on Drug Abuse.

Juhász-Mininberg, E. (2004). *Construyendo la puertorriqueñidad: ¿aquí y/o allá? Ciudadanía, cultura, nación y las fronteras de la identidad nacional en tiempos de globalización. Colección Monografías, (5)*. Universidad Central de Venezuela. Retrieved from http://www.globalcult.org.ve/doc/Monografias/MonografiaJuhaszMininberg.pdf

Julian, T. W., Mckenry, P. C., & Mckelvey, M. W. (1994). Cultural variations in parenting: Perceptions of Caucasian, African-American, Hispanic, and Asian-American parents. *Family Relations*, *43*(1), 30–37.

Kato-Klebanov, P., Brooks-Gunn, J., & Uncan, G. J. (1994). Does neighborhood and family poverty affect mothers' parenting, mental health, and social support? *Journal of Marriage & Family*, *56*, 441–455.

Kazdin, A. E. (2005). *Parent management training: Treatment for oppositional, aggresive, and antisocial behavior in childrn and adolescents.* New York: Oxford University Press.

Kazdin, A. E., Holland, L., Crowley, M., & Breton, S. (1997). Barriers to Treatment Participation Scale: Evaluation and validation in the context of child outpatient treatment. *Journal of Child Psychology and Psychiatry*, *38*(8), 1051–1062.

Kazdin, A. E., & Wassell, G. (2000). Predictors of barriers to treatment and therapeutic change in outpatient therapy for antisocial children and their families. *Mental Health Services Research*, *2*(1), 27–40.

Kendler, K., Bulik, C. M., Silberg, J., Hettema, J., Myers, J., & Prescott, C. A. (2000). Childhood sexual abuse and adult psychiatric and substance use disorders in women. *Archives of General Psychiatry*, *57*, 953–959.

Kendler, K. S., Sham, P. C., & MaClean, C. J. (1997). The determinants of parenting: An epidemiological, multi-informant, retrospective study. *Psychological Medicine*, *27*(3), 549–563.

Kennard, B. D., Silva, S. G., Tonev, S., Rohde, P., Hughes, J., Vitiello, B., … March, J. (2009). Remission and recovery in the treatment for adolescents with depression study (TADS): Acute and long-term outcomes. *Journal of the American Academy Children Adolescent Psychiatry*, *48*(2), 186–195.

Kennedy, S., & Bumpass, L. (2008). Cohabitation and children's living arrangements. *Demographic Research*, *19*(47), 1663–1692.

Kennedy, S., & Fitch, C. A. (2012). Measuring cohabitation and family structure in the United States: Assessing the impact of new data from the Current Population Survey. *Demography*, *49*(4), 1479–98.

Kerr, D. C., Lopez, N. L., Olson, S. L., & Sameroff, A. J. (2004). Parental discipline and externalizing behavior problems in early childhood: The roles of moral regulation and child gender. *Journal of Abnormal Child Psychology*, *32*(4), 369–383.

Kerr, M., & Stattin, H. (2000). What parents know, how they know it, and several forms of adolescent adjustment: Further support for a reinterpretation of monitoring. *Developmental Psychology*, *36*(3), 366–380.

Keshavarz, S., & Baharudin, R. (2009). Parenting style in a collectivist cultures of Malaysia. *European Journal of Social Sciences*, *10*(1), 66–73.

Kessler, R. C., Avenevoli, S., Costello, E. J., Green, J. G., Gruber, M. J., Heeringa, S., … Zaslavsky, A. M. (2007). Design and field procedures in the US National Comorbidity Survey Replication Adolescent Supplement (NCS-A). *International Journal of Methods in Psychiatric Research*, *18*(2), 69–83.

Kessler, R. C., Avenevoli, S., Costello, E. J., Green, J. G., Gruber, M. J., Heeringa, S., … Zaslavsky, A. M. (2009). Design and field procedures in the US National Comorbidity Survey Replication Adolescent Supplement (NCS-A). *International Journal of Methods in Psychiatric Research*, *18*(2), 69–83.

Kessler, R. C., Avenevoli, S., Green, J., Gruber, M. J., Guyer, M., He, Y., … Zaslavsky, A. M. (2009). National comorbidity survey replication adolescent

supplement (NCS-A): III. Concordance of DSM-IV/CIDI diagnoses with clinical reassessments. *Journal of the American Academy of Child and Adolescent Psychiatry*, *48*(4), 386–399.

Kessler, R. C., Berglund, P., Demler, O., Jin, R., Koretz, D., Merikangas, K. R., … Wang, P. S. (2003). The epidemiology of major depressive disorder. *JAMA Psychiatry*, *289*(23), 3095–3105.

Kessler, R., & K. Merikangas. (2004). The National Comorbidity Survey Replication (NCS-R). *International Journal of Methods in Psychiatry Research*, *13*(2), 60–68.

Khaleque, A., & Rohner, R. P. (2002). Perceived parental acceptance-rejection and psychological adjustment: A meta-analysis of cross-cultural and intracultural studies. *Journal of Marriage and Family*, *64*, 54–64.

Khaleque, A., & Rohner, R. P. (2002). Reliability of measures assessing the pancultural association between perceived parental acceptance-rejection and psychological adjustment: A meta-analysis of cross-cultural and intracultural studies. *Journal of Cross-Cultural Psychology*, *33*(1), 87–99.

Khaleque, A., & Rohner, R. P. (2011). Pancultural associations between perceived parental acceptance and psychological adjustment of children and adults: A meta-analytic review of worldwide research. *Journal of Cross-Cultural Psychology*, *43*(5), 784–800.

Kierkus, C. A., & Baer, D. (2002). A social control explanation of the relationship between family structure and delinquent behaviour. *Canadian Journal of Criminology*, *44*, 425–458.

Kiesner, J., Poulin, F., & Dishion, T. J. (2010). Adolescent substance use with friends: Moderating and mediating effects of parental monitoring and peer activity contexts. *Merrill-Palmer Quarterly*, *56*(4), 529–556.

Kim, J. E., Hetherington, E. M., & Reiss, D. (1999). Associations among family relationships, antisocial peers, and adolescents' externalizing behaviors: Gender and family type differences. *Child Development*, *70*(5), 1209–30.

Kim-Cohen, J., Caspi, A., Moffitt, T. E., Harrington, H., Milne, B. J., & Poulton, R. (2003). Prior juvenile diagnoses in adults with mental disorder. *Archives of General Psychiatry*, *60*(July), 709–717.

Kish, L. (1965). *Survey Sampling*. New York: John Wiley & Sons.

Knerr, W., Gardner, F., & Cluver, L. (2013). Improving positive parenting skills and reducing harsh and abusive parenting in low- and middle-income countries: A systematic review. *Prevention Science*, *14*(4), 352–363.

Knight, G., Virdin, L. M., & Roosa, M. W. (1994). Socialization and family correlates

of mental health outcomes among Hispanic and Anglo-American families. *Child Development*, *65*, 212–224.

Kochanska, G., Devet, K., Goldman, M., Murray, K., & Putnam, S. P. (1994). Maternal reports of conscience development and temperament in young-children. *Child Development*, *65*(3), 852–868.

Komro, K. A., Maldonado-Molina, M. M., Tobler, A. L., Bonds, J. R., & Muller, K. E. (2007). Effects of home access and availability of alcohol on young adolescents' alcohol use. *Addiction*, *102*, 1597–1608.

Kopp, C. B. (1982). Antecedents of self-regulation: A developmental perspective. *Developmental Psychology*, *18*(2), 199–214.

Kouyoumdjian, H., Zamboanga, B. L., & Hansen, D. J. (2003). Barriers to community mental health services for Latinos: Treatment considerations. *Clinical Psychology: Science and Practice*, *10*(4), 394–422.

Kreider, R. M., & Ellis, R. (2009). *Living arrangements of children: 2009*. Retrieved from https://www.census.gov/prod/2011pubs/p70-126.pdf

Krogstad, J. M. (2015). Puerto Ricans leave in record numbers for mainland U.S. Retrieved February 14, 2016, from http://www.pewresearch.org/fact-tank/2015/10/14/puerto-ricans-leave-in-record-numbers-for-mainland-u-s/

Krohn, M. D. ., Stern, S. B., Thornberry, T. P., & Jang, S. J. (1992). The measurement of family process variables: The effect of adolescent and parent perceptions of family life on delinquent behavior. *Journal of Quantitative Criminology*, *8*(3), 287–315.

Kumpfer, K. L., & Alvarado, R. (2003). Family-strengthening approaches for the prevention of youth problem behaviors. *American Psychologist*, *58*(6-7), 457–465.

Kurdek, L. A., Fine, M. A., & Sinclair, R. J. (1994). The relation between parenting transitions and adjustment in young adolescents: A multisample investigation. *The Journal of Early Adolescence*, *14*(4), 412–431.

Lac, A., Alvaro, E. M., Crano, W. D., & Siegel, J. T. (2009). Pathways from parental knowledge and warmth to adolescent marijuana use: An extension to the Theory of Planned Behavior. *Prev Sci.*, *10*(1), 22–32.

Lahey, B. B., Flagg, E. W., Bird, H. R., Schwab-Stone, M. E., Canino, G., Dulcan, M. K., … Regier, D. a. (1996). The NIMH Methods for the Epidemiology of Child and Adolescent Mental Disorders (MECA) Study: background and methodology. *Journal of the American Academy of Child and Adolescent Psychiatry*, *35*(7), 855–64.

Laird, R. D., Marrero, M. D., & Sentse, M. (2010). Revisiting parental monitoring:

Evidence that parental solicitation can be effective when needed most. *Journal of Youth and Adolescence*, *39*(12), 1431–41.

Landale, N. S., & Fennelly, K. (1992). Informal unions among mainland Puerto Ricans: Cohabitation or an alternative to legal marriage? *Journal of Marriage and Family*, *54*(2), 269–280.

Landale, N. S., & Ogena, N. B. (1995). Migration and union dissolution among Puerto Rican women. *International Migration Review*, *29*(3), 671–692.

Landale, N. S., Oropesa, R. S., & Bradatan, C. (2006). Hispanic families in the United States: Family structure and process in an era of family change. Hispanics and the future of America. In M. Tienda & F. Mitchell (Eds.), *National research council (US). Panel of Hispanics in the United States.* Washington, D.C.: The National Academy Press.

Landale, N. S., Thomas, K. J. A., & Van Hook, J. (2011). The living arrangements of children of immigrants. *The Future of Children*, *21*(1), 43–70.

Lansford, J. E., Criss, M. M., Laird, R. D., Shaw, D. S., Pettit, G. S., & Dodge, K. A. (2011). Reciprocal relations between parents' physical discipline and children's externalizing behavior during middle childhood and adolescence. *Development and Psychopathology*, *23*(1), 225–238.

Lansford, J. E., Deater-Deckard, K., Dodge, K. A., Bates, J. E., & Pettit, G. S. (2004). Ethnic differences in the link between physical discipline and later adolescent externalizing behaviors. *Journal of Child Psychology and Psychiatry*, *45*(4), 801–812.

Lansford, J. E., Sharma, C., Malone, P. S., Woodlief, D., Dodge, K. A., Oburu, P., … Di Giunta, L. (2014). Corporal punishment, maternal warmth, and child adjustment: A longitudinal study in eight countries. *Journal of Clinical Child and Adolescent Psychology*, *43*(4), 1–16.

Lauria, A. (1982). Respeto, relajo, and interpersonal relations in Puerto Rico. In F. Cordasco & E. Bucchioni (Eds.), *The Puerto Rican community and its children on the mainland* (2nd ed., pp. 58–71). Metuchen, NJ: Scarecrow. Lightfoot.

Leal, C. C. (2005). Stigmatization of Hispanic children, pre-adolescents, and adolescents with mental illness: Exploration using a national database. *Issues in Mental Health Nursing*, *26*(10), 1025–1041.

Lichter, D. T., Qian, Z., & Mellott, L. M. (2006). Marriage or dissolution? Union transitions among poor cohabiting women. *Demography*, *43*(2), 223–40.

Linares, L. O., Li, M., Shrout, P. E., Ramirez-Gaite, M. B., Hope, E. S., Albert, A., & Castellanos, F. X. (2010). The course of inattention and hyperactivity/impulsivity symptoms after foster placement. *Pediatrics*, *125*(3),

489–498.

Lindström, M. (2008). Social capital, anticipated ethnic discrimination and self-reported psychological health: A population-based study. *Social Science and Medicine*, *66*(1), 1–13.

Lish, J. D., Weissman, M. M., Adams, P. B., Hoven, C. W., & Bird, H. (1995). Family psychiatric screening instruments for epidemiologic studies: Pilot testing and validation. *Psychiatry Research*, *57*(2), 169–180.

Loeber, R., Farrington, D. P., & Stouthamer-Loeber, M. Van Kammen, W. B. (1998). *Antisocial behavior and mental health problems: Explanatory factors in childhood and adolescence*. Hillsdale, NJ: Lawrence Erlbaum Associates.

Luecken, L. J., Hagan, M. J., Wolchik, S., Sandler, I. N., & Tein, J. Y. (2016). A longitudinal study of the effects of child-reported maternal warmth on cortisol stress response 15 years after parental divorce. *Psychosomatic Medicine*, *78*, 163–170.

Lugo-Steidel, A. G., & Contreras, J. M. (2003). A new familism scale for use with Latino populations. *Hispanic Journal of Behavioral Sciences*, *25*(3), 312–330.

Luis, T. M., Varela, E., & Moore, K. W. (2008). Parenting practices and childhood anxiety reporting in Mexican, Mexican American, and European American families. *Journal of Anxiety Disorders*, *2*(6), 1011–1020.

Maccoby, E. E., & Martin, J. A. (1983). Socialization in the context of the family: Parent-child interaction. In *Handbook of child psychology: Vol 4. Socialization, Personality, and Social Development* (pp. 1–101). New York, NY: Willey.

Magaña, J. R., de la Rocha, O., Amsel, J., Magaña, H. A., Fernandez, M. I., & Rulnick, S. (1996). Revisiting the dimensions of acculturation: Cultural theory and psychometric practice. *Hispanic Journal of Behavioral Sciences*, *18*, 444–468.

Magnuson, K. and Berger, L. M. (2009). Family structure states and transitions: Associations with children's well-being during middle childhood. *Journal of Marriage and Family*, *71*, 575–591.

Mancini, M. A., Salas-Wright, C. P., & Vaughn, M. G. (2015). Drug use and service utilization among Hispanics in the United States. *Social Psychiatry and Psychiatric Epidemiology*, *50*(11), 1679–1689.

Manning, W. D. (2004). Children and the stability of cohabiting couples. *Journal of Marriage and Family*, *66*(3), 674–689.

Manning, W. D., & Brown, S. L. (2006). Children's economic well-being in married and cohabiting parent families. *Journal of Marriage and Family*, *68*, 345–362.

Manning, W. D., & Lamb, K. A. (2003). Adolescent well-being in cohabiting, married, and single-parent families. *Journal of Marriage and Family*, *65*(4), 876–893.

Manning, W. D., & Landale, N. S. (1996). Racial and ethnic differences in the role of cohabitation in premarital childbearing. *Journal of Marriage and Family*, *58*(1), 63–77.

Manning, W., & Lichter, D. T. (1996). Parental cohabitation and children's economic well-being. *Journal of Marriage and Family*, *58*, 998–1010.

Mares, S. H. W., Lichtwarck-Aschoff, A., Burk, W. J., Van Der Vorst, H., & Engels, R. C. M. E. (2012). Parental alcohol-specific rules and alcohol use from early adolescence to young adulthood. *Journal of Child Psychology and Psychiatry*, *53*(7), 798–805.

Marin, G. (1989). Prevention among Hispanics: Needs, risk behaviors and cultural values. *Public Health Reports*, *104*(5), 411–415.

Marín, G., & Marín, B. V. (1991). *Research with Hispanic populations*. Newbury Park, CA: Sage Publications.

Marsiglia, F. F., Parsai, M., & Kulis, S. (2009). Effects of familism and family cohesion on problem behaviors among adolescents in Mexican immigrant families in the Southwest U.S. *Journal of Ethnic and Cultural Diversity in Social Work.*, *18*(3), 203–220.

Martinez, C. R., & Forgatch, M. S. (2002). Adjusting to change: Linking family structure transitions with parenting and boys' adjustment. *Journal of Family Psychology*, *16*(2), 107–117.

Martinez, E. A. (1999). Mexican American/Chicano families: Parenting as diverse as the families themselves. In H. P. McAdoo (Ed.), *Family ethnicity: Strength in diversity* (pp. 121–134). Thousand Oaks, CA: Sage Publications.

Martinez-Aviles, M. L. (2011). *The individual and collective effect of US colonialism in Puerto Rico: A scale construction and validation, with implications for social work education and practice*.

Mason, C. A., Cauce, A. M., Gonzales, N., Hiraga, Y., & Grove, K. (1994). An ecological model of externalizing behaviors in African-American adolescents: No family is an island. *Journal of Research on Adolescence*, *4*(4), 639–655.

Matos, M., Bauermeister, J. J., & Bernal, G. (2009). Parent-Child Interaction Therapy for Puerto Rican preschool children with ADHD and behavior problems: A pilot efficacy study. *Family Process*, *48*(2), 232–252.

Matos, M., Torres, R., Santiago, R., Jurado, M., & Rodriguez, I. (2006). Adaptation of Parent-Child Interaction Therapy for Puerto Rican families: A preliminary

study. *Family Process*, *45*(2), 205–222.

McCaa, R. (1994). Marriageways in Mexico and Spain, 1500-1900. *Continuity and Change*, *9*(1), 11–43.

McCabe, K., Yeh, M., Garland, A. F., Lau, A. S., & Chavez, G. (2005). The GANA program: A tailoring approach to adapting Parent Child Interaction Therapy for Mexican Americans. *Education and Treatment of Children*, *28*(2), 111–129.

McCabe, K., Yeh, M., Hough, R. L., Landsverk, J., Hurlburt, M. S., Wells Culver, S., & Reynolds, B. (1999). Racial/ethnic representation across five public sectors of care for youth. *Journal of Emotional and Behavioral Disorders*, *7*(2), 72–82.

McHale, J., Lauretti, A., Talbot, J., & Pouquette, C. (2002). Retrospect and prospect in the psychological study of coparenting and family group process. In J. McHale & W. Grolnick (Eds.), *Retrospect and prospect in the psychological study of families*. London: Lawrence Erlbaum.

McHale, S. M., Updegraff, K. a, Shanahan, L., Crouter, A. C., & Killoren, S. E. (2005). Siblings' differential treatment in Mexican American families. *Journal of Marriage and Family*, *67*(5), 1259–1274.

McKee, L., Colletti, C., Rakow, A., Jones, D. J., & Forehand, R. (2008). Parenting and child externalizing behaviors: Are the associations specific or diffuse? *Aggression and Violent Behavior*, *13*(3), 201–215.

McLeod, B. D., Weisz, J. R., & Wood, J. J. (2007). Examining the association between parenting and childhood depression: A meta-analysis. *Clinical Psychology Review*, *27*(8), 986–1003.

McLeod, B. D., Wood, J. J., & Weisz, J. R. (2007). Examining the association between parenting and childhood anxiety: A meta-analysis. *Clinical Psychology Review*, 155–172.

Mcleod, J. D., & Shanahan, M. J. (1996). Trajectories of poverty and children's mental health. *Journal of Health and Social Behavior*, *37*, 207–220.

McLoyd, V. C., & Wilson, L. (1990). Maternal behavior, social support, and economic conditions as predictors of distress in children. In V. C. McLoyd & C. Flanagan (Eds.), *New directions for child development: No. 46. Economic stress: Effects on family life and child development* (pp. 49–69). San Francisco: Jossey-Bass.

McMillan, K. A., Hons, B. A., Enns, M. W., Asmundson, G. J. G., & Sareen, J. (2010). The association between income and distress, mental disorders, and suicidal ideation and attempts: Findings from the collaborative psychiatric epidemiology surveys. *Journal of Clinical Psychiatry*, *71*(9), 1168–1175.

Melby, J. N., Conger, R. D., Conger, K. J., & Lorenz, F. O. (1993). Effects of parental

behavior on tobacco use by young male adolescents. *Journal of Marriage and Family*, *55*, 439–454.

Meltzer, H., Gatward, R., Goodman, R., & Ford, T. (2003). Mental health of children and adolescents in Great Britain. *International Review of Psychiatry*, *15*(1-2), 185–7.

Mendoza, R. H. (1989). An empirical scale to measure type and degree of acculturation in Mexican-American adolescents and adults. *Journal of Cross Cultural Psychology*, *20*(372-385).

Mensch, B. S., & Kandel, D. B. (1988). Under-reporting of substance use in a national longitudinal youth cohort. Individual and interviewer effects. *Public Opinion Quarterly*, *52*, 100–124.

Merikangas, K., Avenevoli, S., Costello, J., Koretz, D., & Kessler, R. C. (2009). National Comorbidity Survey Replication Adolescent supplement (NCS-A): I. Background and measures. *Journal of the American Academy of Child and Adolescent Psychiatry*, *48*(4), 367–9.

Merikangas, K., Jian-ping, H., Burstein, M., Swanson, S., Avenevoli, S., Lihong, C., … Swendsen, J. (2010). Lifetime prevalence of mental disorders in US adolescents: Results from the National Comorbidity Study-Adolescent supplement. *Journal of the American Academy Children Adolescent Psychiatry*, *49*(10), 980–989.

Merikangas, K. R., Stolar, M., Stevens, D. E., Goulet, J., Preisig, M. A., Fenton, B., … Rounsaville, B. J. (1998). Familial transmission of substance use disorders. *Archives of General Psychiatry*, *55*(11), 973–979.

Milan E. E., S. and P., Milan, S., & Pinderhughes, E. E. (2006). Family instability and child maladjustment trajectories during elementary school. *Journal of Abnormal Child Psychology*, *34*(1), 43–56.

Miller, L., Warner, V., Wickramaratne, P., & Weissman, M. (1997). Religiosity and depression: Ten-year follow-up of depressed mothers and offspring. *Journal of the American Academy Children Adolescent Psychiatry*, *36*(1416-1425).

Mirande, A. (1985). *The Chicano experience: An alternative perspective*. Notre Dame, Indiana: University of Notre Dame Press.

Mogro-Wilson, C. (2008). The influence of parental warmth and control on Latino adolescent alcohol use. *Hispanic Journal of Behavioral Sciences*, *30*(1), 89–105.

Montoro-Rodriguez, J., & Kosloski, K. (1998). The impact of acculturation on attitudinal familism in a community of Puerto Rican Americans. *Hispanic Journal of Behavioral Sciences*, *20*(3), 375–390.

Morcillo, C., Duarte, C. S., Shen, S., Blanco, C., Canino, G., & Bird, H. R. (2011).

Parental familism and antisocial behaviors: Development, gender, and potential mechanisms. *Journal of the American Academy of Child & Adolescent Psychiatry*, *50*(5), 471–479.

Moscoso, M. R., Parilla, I., Robles, R., Colón, H., & García, M. (1998). *El uso de drogas en los adolescentes escolares. Consulta Juvenil, 1997–98. Instituto de Investigaciones, Administración de Servicios de Salud Mental y Contra la Adicción.* Hato Rey, P.R.

Mousavi, S. E., Low, W. Y., & Hashim, A. H. (2016). Perceived parenting styles and cultural influences in adolescent's anxiety: A cross-cultural comparison. *Journal of Child and Family Studies*, *25*(7), 2102–2110.

Mulvaney-Day, N. E., Alegría, M., & Sribney, W. (2007). Social cohesion, social support, and health among Latinos in the United States. *Social Science & Medicine*, *64*(2), 477–95.

Musick, K., & Meier, A. (2010). Are both parents always better than one? Parental conflict and young adult well-being. *Social Science Research*, *39*(5), 814–830.

Muza, G. M., Bettiol, H., Muccillo, G., & Barbieri, M. A. (1997). The consumption of psychoactive substances by adolescents in schools in Ribeirao Preto, SP (Brazil). *Revista de Saude Publica*, *31*, 21–29.

Najman, J. M., Behrens, B. C., Andersen, M., Bor, W., O'Callaghan, M., & Williams, G. M. (1997). Impact of family type and family quality on child behavior problems: A longitudinal study. *Journal of American Academy of Child and Adolescent Psychiatry*, *36*(10), 1357–65.

National Research Council. (1993). *Understanding child abuse and neglect*. Washington, DC: National Academy Press.

National research Council. (2006). *Hispanics and the future of America. Panel on Hispanics in the United States. Committee on Population, Division of Behavioral and Social Sciences and Education.* (M. Tienda & F. Mitchell, Eds.). Washington, D.C.: The National Academy Press.

National Research Council and Institute of Medicine. (2004). *Reducing underage drinking: A collective responsibility*. (Committee on Developing a Strategy to Reduce and Prevent Underage Drinking, R. Bonnie, & M. O'Connell, Eds.). Washington DC: The National Academy Press.

Nepomnyaschy, P., & Teitler, J. (2013). Cyclical cohabitation among unmarried parents in fragile families. *Journal of Marriage and Family*, *75*, 1248–1265.

Ng, K.-M. (2005). A cross-cultural validation of the Attachment Style Questionnaire: A Malaysian pilot study. *The Family Journal*, *13*(4), 416–426.

Norstrom, T., & Pape, H. (2012). Associations between adolescent heavy drinking

and problem drinking in early adulthood: Implications for prevention. *J Stud Alcohol Drugs*, *73*(4), 542–548.

Nowicki, S., & Strickland, B. R. (1973). A locus of control scale for children. *Journal of Consulting and Clinical Psychology*, *40*(1), 148–154.

O'Sullivan, L. F., Meyer-Bahlburg, H. F. L., & Watkins, B. X. (2001). Mother-daughter communication about sex among urban African American and Latino families. *Journal of Adolescent Research*, *16*(3), 269–292.

Oropesa, R., Landale, N., & Greif, M. (2008). From Puerto Rican to pan-ethnic in New York City. *Ethnic and Racial Studies*, *31*(7), 1315–1339.

Oropesa, R. S. (1996). Normative beliefs about marriage and cohabitation: A comparison of non-Latino Whites, Mexican Americans, and Puerto Ricans. *Journal of Marriage and Family*, *58*(1), 49–62.

Oropesa, R. S., & Landale, N. S. (2000). From austerity to prosperity? Migration and child poverty among mainland and island Puerto Ricans. *Demography*, *37*(3), 323–38.

Ortega, A. N., Rosenheck, R., Alegría, M., & Desai, R. A. (2000). Acculturation and the lifetime risk of psychiatric and substance use disorders among Hispanics. *The Journal of Nervous and Mental Disease*, *188*(11), 728–735.

Osborne, C., Manning, W. D., & Smock, P. J. (2007). Married and cohabiting parents' relationship stability: A focus on race and ethnicity. *Journal of Marriage and Family*, *69*, 1345–1366.

Osborne, C., & McLanahan, S. (2007). Partnership instability and child well-being. *Journal of Marriage and Family*, *69*, 1065–1083.

Padgett, D. K., Patrick, C., Burns, B. J., & Schlesinger, H. J. (1994). Women and outpatient mental health services: Use by Black, Hispanic, and White women in a national insured population. *Journal of Mental Health Administration*, *21*(4), 347–360.

Paine, H. J. (1977). Attitudes and patterns of alcohol use among Mexican Americans: Implications for service delivery. *Journal of Studies on Alcohol*, *38*, 544–553.

Patterson, G. R. (1982). *Coercive family process*. Eugene, OR: Castalia.

Patterson, G. R., Dishion, T. J., & Bank, L. (1984). Family interaction: A process model of deviancy training. *Aggressive Behavior*, *10*, 253–267.

Patterson, G. R., Reid, J. B., & Dishion, T. J. (1992). *Antisocial boys*. Eugene, OR: Castalia.

Patterson, G. R., & Stouthamer-Loeber, M. (1984). The correlation of family management practices and delinquency. *Child Development*, *55*(4), 1299–1307.

Penchansky, R., & Thomas, J. W. (1981). The concept of access: Definition and relationship to consumer satisfaction. *Medical Care*, *19*(2), 127–140.

Peña, J. B., Wyman, P. a, Brown, C. H., Matthieu, M. M., Telva, E., Hartel, D., & Zayas, L. H. (2008). Immigration generation status and its association with suicide attempts, substance use, and depressive symptoms among Latino adolescents in the USA. *Prevention Science*, *9*(4), 299–310.

Perez, M. (2014). *The barriers Latinos have in obtaining mental health services*. California State University.

Pescador, J. J. (1988). Confesores y casaderas: La nupcialidad subyacente de la ética matrimonial de la iglesia Nevohispana. *Estudios Demográficos Y Urbanos.*, *3*(2).

Petra, M., & Kohl, P. (2010). Pathways Triple P and the child welfare system: A promising fit. *Child and Youth Services Review*, *1*(32), 611–618.

Pew Research Center. (2015). *Parenting in America: Outlook, worries, aspirations are strongly linked to financial situation* (Vol. 1).

Phillips, J. A., & Sweeney, M. M. (2005). Premarital cohabitation and marital disruption among White, Black, and Mexican American women. *Journal of Marriage and Family*, *67*, 296–314.

Picó, F. (2006). *History of Puerto Rico: A panorama of its people*. Princeton, New Jersey: Markus Wiener Publishers.

Prado, G., Cordova, D., Huang, S., Estrada, Y., Rosen, A., Bacio, G. A., … McCollister, K. (2012). The efficacy of Familias Unidas on drug and alcohol outcomes for Hispanic delinquent youth: Main effects and interaction effects by parental stress and social support. *Drug and Alcohol Dependence*, *125*, 18–25. http://doi.org/10.1016/j.drugalcdep.2012.06.011

Prado, G., & Pantin, H. (2011). Reducing substance use and HIV health disparities among Hispanic youth in the USA: The Familias Unidas Program of Research. *Psychosocial Intervention*, *20*(1), 75–94.

Pumariega, A. J., Glover, S., Holzer, C. E., & Nguyen, H. (1998). II. Utilization of mental health services in a tri-ethnic sample of adolescents. *Community Mental Health Journal*, *34*(2), 145–156.

Raia, J. A. (1995). *Perceived social support and coping as moderators of children's exposure to community violence*. University of California.

Raley, R. K., & Wildsmith, E. (2004). Cohabitation and children's family instability. *Journal of Marriage and Family*, *66*, 210–219.

Ramirez, J. R., Crano, W. D., Quist, R., Burgoon, M., Alvaro, E. M., & Grandpre, J. (2004). Acculturation, familism, parental monitoring, and knowledge as

predictors of marijuana and inhalant use in adolescents. *Psychology of Addictive Behaviors*, *18*(1), 3–11.

Ramirez, O., & Arce, C. H. (1981). The contemporary Chicano family: An empirically based review. In A. Baron (Ed.), *Explorations in Chicano psychology*. New York, NY: Prager.

Ramisetty-Mikler, S., Caetano, R., & Rodriguez, L. A. (2010). The Hispanic Americans Baseline Alcohol Survey (HABLAS): Alcohol consumption and sociodemographic predictors across Hispanic national groups. *Journal of Substance Use*, *15*(6), 402–416.

Ramos-Olazagasti, M. A., Shrout, P. E., Yoshikawa, H., Canino, G. J., & Bird, H. R. (2013). Contextual risk and promotive processes in Puerto Rican youths' internalizing trajectories in Puerto Rico and New York. *Development and Psychopathology*, *25*(3), 755–71.

Rapee, R. (1997). Potential role of childrearing practices in the development of anxiety and depression. *Clinical Psychology Review*, *17*(1), 47–67.

Rastogi, M., & Massey-Hastings, N. (2012). Barriers to seeking mental health Services in the Latino/a community: A qualitative analysis. *Journal of Systemic Therapies*, *31*(4), 1–17.

Read, A. W., & et al. (1995). *The New International Webster's Comprehensive Dictionary of the English Language (encyclopedic edition)*. Chicago: Trident Press International.

Redfield, R., Linton, R., & Herskovits, M. J. (1936). Memorandum for the study of acculturation. *American Anthropologist*, *38*, 149–152.

Reimer, C. (2006). Economic wellbeing. In M. Tienda & F. Mitchell (Eds.), *Hispanics and the future of America* (pp. 291–327). Washington DC: National Academies Press.

Repetti, R. L., Taylor, S. E., & Seeman, T. E. (2002). Risky families: Family social environments and the mental and physical health of offspring. *Psychological Bulletin*, *128*(2), 330–366.

Richters, J. E., & Martinez, P. (1993). The NIMH community violence project: I. Children as victims of and witnesses to violence. *Psychiatry*, *56*, 7–21.

Ríos-Bedoya, C. F., & Freile-salinas, D. (2014). Incidence of alcohol use disorders among Hispanic subgroups in the USA. *Alcohol and Alcoholism*, *49*(5), 549–556.

Rios-Bedoya, C. F., & Gallo, J. J. (2003). The association of alcohol use and depression among Puerto Ricans in the United States and in Puerto Rico. *Journal of Ethnicity in Substance Abuse*, *2*(1), 1–13.

Rivera Ramos, E. (2001). *Legal construction of identity: The judicial and social legacy of American colonialism in Puerto Rico.* Washington, D.C.: American Psychological Association.

Rivera-Batiz, F. L., & Santiago, C. E. (1996). *Island paradox: Puerto Rico in the 1990s*. New York: Russell Sage Foundation.

Rodriguez, N., Mira, C. B., Myers, H. F., Morris, J. K., & Cardoza, D. (2003). Family or friends: Who plays a greater supportive role for Latino college students? *Cultural Diversity & Ethnic Minority Psychology*, *9*(3), 236–250.

Rogler, L. (1996). Research on mental health services for Hispanics: Targets of convergence. *Cultural Diverse Ment Health*, *2*(3), 145–156.

Rohner, R. P. (1986). *The warmth dimension: Foundations of parental acceptance–rejection theory*. Beverly Hills, CA: Sage Publications Inc.

Rohner, R. P., & Britner, P. A. (2002). Worldwide mental health correlates of parental acceptance-rejection: Review of cross-cultural and intracultural evidence. *Cross-Cultural Research*, *36*(1), 16–47.

Rohner, R. P., & Khaleque, A. (2010). Testing central postulates of Parental Acceptance-Rejection Theory (PARTheory): A meta-analysis of cross-cultural studies. *Journal of Family Theory & Review*, *2*(1), 73–87.

Rohner, R. P., Khaleque, A., & Cournoyer, D. E. (2005). Parental acceptance-rejection: Theory, methods, cross-cultural evidence, and implications. *Ethos*, *33*(3), 299–334.

Rohner, R. P., Khaleque, A., Riaz, M. N., Khan, U., Sadeque, S., & Laukkala, H. (2005). Agreement between children's and mothers' perceptions of maternal acceptance and rejaction: A comparative study in Finland and Pakistan. *Ethos*, *33*(3), 367–377.

Rohner, R. P., & Veneziano, R. A. (2001). The importance of father love: History and contemporary evidence. *Review of General Psychology*, *5*(4), 382–405.

Ross, L. (2004). Native women, mean-spirited drugs, and punishing policies. *Social Justice*, *31*(4), 54–62.

Rudy, D., & Grusec, J. E. (2006). Authoritarian parenting in individualist and collectivist groups: Associations with maternal emotion and cognition and children's self-esteem. *Journal of Family Psychology*, *20*(1), 68–78.

Rumbaut, R. G. (2006). The making of a people. In M. Tienda & F. Mitchell (Eds.), *Hispanics and the future of America* (pp. 16–65). National Academies Press.

Russo, F., M., Lahey, B. B., Christ, M. G., & et al. (1991). Preliminary development of a sensation-seeking scale for children. *Personality and Individual Differences*,

12, 399–405.

Russo, M. F., Stokes, G. S., Lahey, B. B., & et al. (1993). A sensation seeking scale for children: Further refinement and psychometric development. *Journal of Psychopathology and Behavioral Assessment*, *15*, 69–86.

Ryan, R. M., & Claessens, A. (2013). Associations between family structure changes and children's behavior problems: the moderating effects of timing and marital birth. *Developmental Psychology*, *49*(7), 1219–31.

Ryan, S., Franzetta, K., Schelar, E., & Manlove, J. (2009). Family structure history: Links to relationship formation behaviors in young adulthood. *Journal of Marriage and Family*, *71*(4), 935–953.

Sabogal, F., Marin, G., Oterosabogal, R., Marin, B. V, & Perezstable, E. J. (1987). Hispanic familism and acculturation. What changes and what doesnt. *Hispanic Journal of Behavioral Sciences*, *9*(4), 397–412.

Sameroff, A. J., Seifer, R., Baldwin, A., & Baldwin, C. (1993). Stability of intelligence from preschool to adolescence - The influence of social and family risk-factors. *Child Development*, *64*(1), 80–97.

Sampson, R. J., & Laub, J. H. (1994). Urban poverty and the family context of delinquents. *Child Development*, *65*, 523–540.

Sanders, M. R. (2008). Triple P-Positive Parenting Program as a public health approach to strengthening parenting. *Journal of Family Psychology*, *22*(4), 506–517.

Sanders, M. R., Cann, W., & Markie-Dadds, C. (2003). The triple P-positive parenting programme: A universal population-level approach to the prevention of child abuse. *Child Abuse Review*, *12*(3), 155–171.

Sanders, M. R., & Mcfarland, M. (2000). Treatment of depressed mothers with disruptive children: A controlled evaluation of cognitive behavioral family intervention. *Behavior Therapy*, *3*, 89–112.

Sanders, M. R., Pidgeon, A. M., Gravestock, F., Connors, M. D., Brown, S., & Young, R. W. (2004). Does parental attributional retraining and anger management enhance the effects of the Triple P-Positive Parenting Program with parents at risk of child maltreatment? *Behavior Therapy*, *35*(3), 513–535.

Santesteban-Echarri, O., Ramos-Olazagasti, M. A., Eisenberg, R. E., Wei, C., Bird, H. R., Canino, G., & Duarte, C. S. (2017). Parental warmth and psychiatric disorders among Puerto Rican children in two different socio-cultural contexts. *Journal of Psychiatric Research*, *87*, 30–36.

Santiago-Rivera, A. L., Arredondo, P., & Gallardo-Cooper, M. (2002). *Counseling Latinos and la Familia. A practical guide.* Thousand Oaks, CA: Sage.

Sareen, J., Afifi, T. O., McMillan, K. A., & Asmundson, G. J. G. (2011). Relationship between household income and mental disorders. *Archives of General Psychiatry*, *68*(4), 419–427.

Scarano, F. A. (1993). *Puerto Rico: cinco siglos de historia.* San Juan: McGraw-Hill.

Schoon, I., Jones, E., Cheng, H., & Maughan, B. (2012). Family hardship, family instability, and cognitive development. *Journal of Epidemiology and Community Health*, *66*(8), 716–22.

Schroeder, R. D., Osgood, A. K., & Oghia, M. J. (2010). Family transitions and juvenile delinquency. *Sociological Inquiry*, *80*(4), 579–604.

Schur, C. L., White, L. A., & Berk, M. L. (1995). Health care use by Hispanic adults: The role of financial vs. nonfinancial determinants. In *AHSR FHSR. Annual Meeting Abstract Book* (Vol. 12).

Schwartz, S. J. (2007). The applicability of familism to diverse ethnic groups: A preliminary study. *The Journal of Social Psychology*, *147*(2), 101–118.

Scott, J., Scott, E. M., Hermens, D. F., Naismith, S. L., Guastella, A. J., White, D., … Hickie, I. B. (2014). Functional impairment in adolescents and young adults with emerging mood disorders. *British Journal of Psychiatry*, *205*(5), 362–368.

Seltzer, J. A. (1994). Consequences of marital dissolution for children. *Annual Review of Sociology*, *20*, 235–266.

Serketich, W. J., & Dumas, J. E. (1996). The effectiveness of behavioral parent training to modify antisocial behavior in children: A meta-analysis. *Behavior Therapy*, *27*(2), 171–186.

Serrano-Villar, M., Huang, K. Y., & Calzada, E. J. (2016). Social support, parenting, and social emotional development in young Mexican and Dominican American children. *Child Psychiatry and Human Development*, 1–13.

Shaffer, D., Fisher, P., Dulcan, M., Davis, D., Piacentini, J., Schwab Stone, M., … Regier, D. (1996). The NIMH Diagnostic Interview Schedule for Children (DISC 2.3): Description, acceptability, prevalence, and performance in the MECA study. *Journal of the American Academy of Children & Adolescent Psychiatry*, *359*, 865–877.

Shaffer, D., Fisher, P., Lucas, C. P., Dulcan, M. K., & Schwab-Stone, M. E. (2000). Diagnostic Interview Schedule for Children Version IV (NIMH DISC-IV): Description, differences from previous versions, and reliability of some common diagnoses. *Journal of the American Academy of Child and Adolescent Psychiatry*, *39*(1), 28–38.

Shakya, H. B., Christakis, N. A., & Fowler, J. H. (2012). Parental influence on substance use in adolescent social networks. *Archives of Pediatrics & Adolescent*

Medicine, *166*(12), 1132–9.

Sharpley, C. F., & Cross, D. G. (1982). A psychometric evaluation of the Spanier Dyadic Adjustment Scale. *Journal of Marriage and Family*, *44*, 739–741.

Shelton, K. H., Harold, G. T., Fowler, T. A., Rice, F. J., Neale, M. C., Thapar, A., & Bree, M. B. M. (2008). Parent-child relations, conduct problems and cigarette use in adolescence: Examining the role of genetic and environmental factors on patterns of behavior. *Journal of Youth and Adolescence*, *37*(10), 1216–1228.

Siegler, R., Deloache, J., & Eisenberg, N. (2006). *An introduction to child development*. New York, NY: Worth Publishers.

Silén, J. A. (1995). *Hacia una visión positiva del Puertorriqueño (25 Aniversario ed.)*. Puerto Rico: First Book Publishing.

Snyder, J., Edwards, P., McGraw, K., Kilgore, K., & Holten, A. (1993). *Escalation and reinforcement in family conflict: Developmental origins of physical aggression*. Wichita, KS: Kansas State University.

Soenens, B., Vansteenkiste, M., Smits, I., Lowet, K., & Goossens, L. (2007). The role of intrusive parenting in the relationship between peer management strategies and peer affiliation. *Journal of Applied Developmental Psychology*, *28*(3), 239–249.

Sokol-Katz, J. S., & Ulbrich, P. M. (1992). Family structure and adolescent risk-taking behavior: A comparison of Mexican, Cuban and Puerto Rican Americans. *International Journal of Addiction*, *27*, 1197–1209.

Spanier, G. B., & Filsinger, E. E. (1983). The Dyadic Adjustment Scale. In E. Filsinger (Ed.), *Marriage and family assessment: A sourcebook for family therapy* (pp. 115–168). Beverly Hills, CA: Sage Publications.

Spitzer, R. L., Kroenke, K., & Williams, J. B. (1999). Validation and utility of a self-report version of PRIME-MD: The PHQ primary care study. Primary care evaluation of mental disorders. Patient Health Questionnaire. *JAMA Psychiatry*, *282*, 1737–1744.

Staples, R., & Mirandé, A. (1980). Racial and cultural variations among American families: A decennial review of the literature on minority families. *Journal of Marriage & Family*, *42*(4), 887.

Stattin, H., & Kerr, M. (2000). Parental monitoring: A reinterpretation. *Child Development*, *71*(4), 1072–1085.

Stormshak, E. A., Connell, A. M., Véronneau, M. H., Myers, M. W., Dishion, T. J., Kavanagh, K., & Caruthers, A. S. (2011). An ecological approach to promoting early adolescent mental health and social adaptation: Family-centered intervention in public middle schools. *Child Development*, *82*(1), 209–25.

Stouthamer-Loeber, M., & Van Kammen, W. B. (1995). *Data collection and management: A practical guide*. Thousand Oaks, CA: Sage Publications Tarnowski.

Straus, M. A., Hamby, S. L., Finkelhor, D., Moore, D. W., & Runyan, D. (1998). Identification of child maltreatment with the Parent-Child Conflict Tactics Scales: Development and psychometric data for a national sample of American parents. *Child Abuse and Neglect*, *22*(4), 249–270.

Substance Abuse and Mental Health Services Administration. (1998). *Prevalence of substance use among racial and ethnic subgroups in the United States, 1991–1993*. Rockville, MD.

Substance Abuse and Mental Health Services Administration. (2013). *Results from the 2013 National Survey on Drug Use and Health: Summary of national findings, NSDUH Series H-48*. Rockville, MD: Substance Abuse and Mental Health Services Administration, 2014. Retrieved from http://oas.samhsa.gov/NSDUH/2k10NSDUH/2k10Results.pdf

Sued Badillo, J. (1978). *Los Caribes: Realidad o fábula*. Río Piedras, Puerto Rico: Editorial Antillana.

Sued Badillo, J. (1979). *La mujer indígena y su sociedad*. Río Piedras, P.R.: Editorial Antillana.

Sun, Y., & Li, Y. (2008). Stable postdivorce family structures during late adolescence and socioeconomic consequences in adulthood. *Journal of Marriage and Family*, *70*, 129–143.

Swendsen, J., Burstein, M., Case, B., Conway, K. P., Dierker, L., He, J., & Merikangas, K. R. (2012). Use and abuse of alcohol and illicit drugs in US adolescents: Results of the National Comorbidity Survey-Adolescent Supplement. *Archives of General Psychiatry*, *69*(4), 390–398.

Taylor, R. D., Roberts, D., & Jacobson, L. (1997). Stressful life events, psychological well-being, and parenting in African American mothers. *Journal of Family Psychology*, *11*(4), 436–446.

Taylor, Z. E., Conger, R. D., Robins, R. W., & Widaman, K. F. (2015). Parenting practices and perceived social support: Longitudinal relations with the social competence of Mexican-origin children. *Journal of Latin Psychology*, *3*(4), 193–208.

Terrell, D. M. (1993). Ethnocultural factors and substance abuse: Toward culturally sensitive treatment models. *Psychology of Addictive Behaviors*, *7*(3), 162–167.

Thoits, P. A. (1995). Stress, coping, and social support processes: Where are we? What next? *Journal of Health and Social Behavior*, *35*(Extra Issue), 53–79.

Thomas, R., & Zimmer-Gembeck, M. J. (2007). Behavioral outcomes of Parent-Child Interaction Therapy and Triple P-Positive Parenting Program: A review and meta-analysis. *Journal of Abnormal Child Psychology*, *35*(3), 475–95.

Thompson-Gershoff, E. (2002). Corporal punishment by parents and associated child behaviors and experiences: A meta-analytic and theoretical review. *Psychological Bulletin*, *128*(4), 539–579.

Tienda, M., & Mitchell, F. (2006). E pluribus plures or e pluribus unum? In M. Tienda & F. Mitchell (Eds.), *National research council (US). Panel of Hispanics in the United States.* Washington, DC: National Academies Press.

Tilton-Weaver, L. C., Burk, W. J., Kerr, M., & Stattin, H. (2013). Can parental monitoring and peer management reduce the selection or influence of delinquent peers? Testing the question using a dynamic social network approach. *Developmental Psychology*, *49*(11), 2057–70.

Triandis, H. C., Marín, G., Lisansky, J., & Betancourt, H. (1984). Simpatía as a cultural script of Hispanics. *Journal of Personality and Social Psychology*, *47*(6), 1363–1375.

Tronick, E. Z. (1989). Emotions and emotional communication in infants. *American Psychologist*, *44*, 112–119.

Truman, C. (1995). Prohibition in Puerto Rico, 1917-1933. *Journal of Latin American Studies*, *27*(1), 77–97.

Turner, K. M. T., Markie-Dadds, C., & Sanders, M. R. (1998). *Facilitator's manual for group Triple-P*. Milton QLD: Families International Publishing Pty. Ltd.

Turner, R. J., & Brown, R. L. (2010). Social support and mental health. In T. L. Scheid & T. N. Brown (Eds.), *A handbook for the study of mental health. 2.* (pp. 200–212). New York: Cambridge University Press.

U.S. Congress. (1917). Acta Jones, Carta Orgánica de Puerto Rico. Retrieved from http://www.lexjuris.com/lexlex/lexotras/lexactajones.htm

U.S. Department of Health and Human Services. (2014). Annual update of the HHS poverty guidelines. *Federal Register*, *79*(14), 3593–3594. Retrieved from http://www.gpo.gov/fdsys/pkg/FR-2014-01-22/pdf/2014-01303.pdf

Unger, J. B., Ritt-Olson, A., Teran, L., Huang, T., Hoffman, B. R., & Palmer, P. (2002). Cultural values and substance use in a multiethnic sample of California adolescents. *Addiction Research & Theory*, *10*(3), 257–279.

US Census Bureau. (2008). *An older and more diverse nation by midcentury*. Washington, D.C., United States.

Vaeth, P. A. C., Caetano, R., & Rodriguez, L. A. (2012). The Hispanic Americans

Baseline Alcohol Survey (HABLAS): The association between acculturation, birthplace and alcohol consumption across Hispanic national groups. *Addictive Behaviors*, *37*(9), 1029–1037.

Valdes, G. (1996). *Con respeto: Bridging the distances between culturally diverse families and schools: An ethnographic portrait*. New York, NY: Teachers College Press.

Valenzuela, A., & Dornbusch, S. M. (1994). Familism and social capital in the academic achievement of Mexican origin and Anglo adolescents. *Social Science Quartely*, *75*(1), 18–36.

Valsiner, J., & Litvinovic, G. (1996). Processes of generalization in parental reasoning. In S. Harkness & C. M. Super (Eds.), *Parents' cultural belief systems: Their origins, expressions, and consequences* (pp. 56–82). New York, NY: Guilford Publications.

Van den Eijnden, R., Van de Mheen, D., Vet, R., & Vermulst, A. A. (2011). Alcohol-specific parenting and adolescents' alcohol-related problems: The interacting role of alcohol availability at home and parental rules. *Journal of Studies on Alcohol and Drugs*, *72*, 408–417.

Van Ijzendoorn, M. H., Tavecchio, L. W. C., Stams, G. J., Verhoeven, M., & Reiling, E. (1998). Attunement between parents and professional caregivers: A comparison of childrearing attitudes in different child-care settings. *Journal of Marriage and the Family*, *60*(3442), 771–781.

van Zeijl, J., Mesman, J., Stolk, M. N., Alink, L. R. a, van Ijzendoorn, M. H., Bakermans-Kranenburg, M. J., … Koot, H. M. (2007). Differential susceptibility to discipline: The moderating effect of child temperament on the association between maternal discipline and early childhood externalizing problems. *Journal of Family Psychology*, *21*(4), 626–636.

Van Zundert, R. M. P., Van Der Vorst, H., Vermulst, A. A., & Engels, R. C. M. E. (2006). Pathways to alcohol use among Dutch students in regular education and education for adolescents with behavioral problems: The role of parental alcohol use, general parenting practices, and alcohol-specific parenting practices. *Journal of Family Psychology*, *20*(3), 456–467.

Varela, R. E., Niditch, L. A., Hensley-Maloney, L., Moore, K. W., & Creveling, C. C. (2013). Parenting practices, interpretative biases, and anxiety in Latino children. *J Anxiety Disord*, *27*(2), 171–177.

Varela, R. E., Sanchez-Sosa, J. J., Biggs, B. K., & Luis, T. M. (2009). Parenting strategies and socio-cultural influences in childhood anxiety: Mexican, Latin American descent, and European American families. *Journal of Anxiety Disorders*, *23*(5), 609–616.

Varela, R. E., Vernberg, E. M., Sanchez-Sosa, J. J., Riveros, A., Mitchell, M., & Mashunkashey, J. (2004). Parenting style of Mexican, Mexican American, and Caucasian-non-Hispanic families: Social context and cultural influences. *Journal of Family Psychology*, *18*(4), 651–657.

Vargas, D. A., Roosa, M. W., Knight, G. P., & O'Donnell, M. (2013). Family and cultural processes linking family instability to Mexican American adolescent adjustment. *Journal of Family Psychology*, *27*(3), 387–97.

Vázquez-García, H. A., García-Coll, C., Erkut, S., Alarcón, O., & Tropp, L. R. (1999). Family values of Latino adolescents. In M. Montero-Sieburth & F. Villarruel (Eds.), *Making invisible Latino adolescents visible: A critical approach to Latino diversity* (pp. 239 – 264). New York: Falmer Press.

Vega, W. A., Kolodi, B., Aguilar-Gaxiola, S., Alderete, E., Catalano, R., & Caraveo-Anduaga, J. (1998). Lifetime prevalence of DSM-III-R psychiatric disorders among urban and rural Mexican Americans in California. *Archives of General Psychiatry*, *55*, 771–778.

Velez, C. N., & Ungemack, J. A. (1989). Drug use among Puerto Rican youth: An exploration of generational status differences. *Social Science & Medicine*, *29*(6), 779–789.

Velez, C. N., & Ungemack, J. A. (1995). Psychosocial correlates of drug use among Puerto Rican youth: Generational status differences. *Social Science & Medicine*, *40*(1), 91–103.

Vélez-Blasini, C. J. (1997). A cross-cultural comparison of alcohol expectancies in Puerto Rico and the United States. *Psychology of Addictive Behaviors*, *11*(2), 124–141.

Vespa, B. J., Lewis, J. M., & Kreider, R. M. (2013). *America's families and living arrangements: 2012, current population reports. U.S. Census Bureau.* Washington, D.C.

Villarreal, R. (2005). Factorial invariance of a pan-Hispanic familism scale. *Hispanic Journal of Behavioral Sciences*, *27*(4), 409–425.

Vong, S., & Bell, B. P. (2004). Chronic liver disease mortality in the United States, 1990– 1998. *Hepatology*, *39*(2), 476–483.

Vreeburg, S. a, Zitman, F. G., van Pelt, J., DeRijk, R. H., Verhagen, J. C. M., van Dyck, R., … Penninx, B. W. J. H. (2010). Salivary cortisol levels in persons with and without different anxiety disorders. *Psychosomatic Medicine*, *72*(4), 340–347.

Waldfogel, J., Craigie, T. A., & Brooks-Gunn, J. (2010). Fragile families and child wellbeing. *The Future of Children*, *20*(2), 87–112.

Wandersman, A., & Nation, M. (1998). Urban neighborhoods and mental health resilience, and interventions consequences of neighborhood. *American Psychologist*, *53*(6), 647–656.

Warheit, G. J., Vega, W. A., Khoury, E. L., Gil, A. A., & Elfenbein, P. H. (1996). A comparative analysis of cigarette, alcohol, and illicit drug use among an ethnically diverse sample of Hispanic, African American, and non-Hispanic White adolescents. *Journal of Drug Issues*, *26*(4), 901–922.

Warner, L. A., Canino, G., & Colón, H. M. (2001). Prevalence and correlates of substance use disorders among older adolescents in Puerto Rico and the United States: A cross-cultural comparison. *Drug and Alcohol Dependence*, *63*(3), 229–243.

Weinberg, N. Z., Rahdert, E., Colliver, J. D., & Glantz, M. D. (1998). Adolescent substance abuse: A review of the past 10 years. *Journal of the American Academy of Child & Adolescent Psychiatry*, *37*, 252–261.

Weintraub, K. J., & Gold, M. (1991). Monitoring and delinquency. *Criminal Behavior and Mental Health*, *1*(3), 268–281.

Weissman, M., Wickramaratne, P., Adams, P., Wolk, S., Verdeli, H., & Olfson, M. (2000). Brief screening for family psychiatric history. *Archives of General Psychiaty*, *57*, 675–682.

White, H. R., Johnson, V., & Buyske, S. (2000). Parental modeling and parenting behavior effects on offspring alcohol and cigarette use. A growth curve analysis. *Journal of Substance Abuse*, *12*(3), 287–310.

Williams, N. (1988). Role making among married Mexican American women: Issues of class and ethnicity. *Journal of Applied Behavioral Sciences*, *24*, 203–217.

Wong, M. M., Nigg, J. T., Zucker, R. a, Puttler, L. I., Fitzgerald, H. E., Jester, J. M., … Adams, K. (2006). Behavioral control and resiliency in the onset of alcohol and illicit drug use: A prospective study from preschool to adolescence. *Child Development*, *77*(4), 1016–33.

Wood, J. J., McLeod, B. D., Sigman, M., Hwang, W., & Chu, B. C. (2003). Parenting and childhood anxiety: Theory, empirical findings, and future directions. *Journal of Child Psychology and Psychiatry*, *44*(1), 134–151.

Woodwards, A. M., Divinell, A. D., & Arons, B. S. (1992). Barriers to mental health care for Hispanic Americans: A literature review and discussion. *Journal of Mental Health Administration*, *19*, 224–235.

Wu, L. L. (1996). Birth effects of family instability, income, and income instability on the risk of a premarital birth. *American Sociological Review*, *61*(3), 386–406.

Wu, L. L., & Martinson, B. C. (1993). Family structure and the risk of a premarital

birth. *American Sociological Review*, *58*(2), 210–232.

Wu, L. L., & Thomson, E. (2001). Race differences in family experience and early sexual initiation: Dynamic models of family structure and family change. *Journal of Marriage and Family*, *63*, 682–696.

Yang, S., & Kramer, M. S. (2012). Paternal alcohol consumption, family transition and child development in a former Soviet country. *International Journal of Epidemiology*, *41*(4), 1086–96.

Young, V. H. (1974). A Black American socialization pattern. *American Ethnologist*, *1*(2), 405–413.

Zavella, P. (1989). The problematic relationship of feminism and Chicana studies. *Womens Studies*, *17*, 25–36.

Zayas, L. H. (1994). Hispanic family ecology and early childhood socialisation: Health care implications. *Family Systema Medicine*, *12*(3), 315–325.

Zinn, M. B. (1982). Familism among Chicanos: A theoretical review. *Humboldt Journal of Social Relations*, *10*(1), 224–238.

Zywiak, W. H., Longabaugh, R., & Wirtz, P. W. (2002). Decomposing the relationships between pretreatment social network characteristics and alcohol treatment outcome. *Journal of Studies on Alcohol*, *63*(1), 114–121.

SUPPLEMENTARY INFORMATION

SUPPLEMENTARY INFORMATION I: MEASURES

We present all the questions used for the measures reported in the thesis, as the reader may not be familiar with them (Figures 15-22). However we do we do not show questions for psychiatric disorders (i.e., ADHD, MDD, DBD, anxiety, SU, alcohol use, internalizing and externalizing disorders) as they belong to The Diagnostic Interview Schedule for Children-IV (DISC-IV) (Shaffer et al., 2000), which is a well-known and validated measure and extremely long to present here, exceeding the purposes of this thesis.

Table 15. Measures: Demographics

QUESTIONS	ANSWER CHOICES
1. Where was *** born?	Puerto Rico .....0 Mainland U.S.....1 Other Spanish Speaking country including Spain and Spanish speaking Latin American).....2 Other non-Hispanic country outside of the U.S. .....3 Refused .....7 Don't know 9
2. What is ***'s date of birth?	__ __ __ __ __ __ __ __ Month Day Year
3. What is ***'s gender? **CODE WITHOUTH ASKING**	Female .....1 Male .....2 Don't know 9
4. Please look at this card and tell me your relationship to ***.	
Biological/Birth mother..... Biological/Birth father..... Stepmother..... Stepfather..... Adoptive mother..... Adoptive father..... Foster mother..... Foster father..... Full biological sister ..... Full biological brother ..... Half-sister ..... Half-brother ..... Step-sister ..... Step-brother	Foster sister.....17 Foster brother.....18 Grandmother.....19 Grandfather.....20 Aunt .....21 Uncle.....22 Female cousin .....23 Male cousin.....24 ***'s partner/girlfriend/boyfriend .....25 ***'s primary caretaker's partner / girlfriend / boyfriend .....26 Female child of *** .....27 Male child of ***.....28 Other female 29

Adoptive sister..... Adoptive brother.....	Other male .....30 Refused .....77 Don't know 99
5. Please tell me [your/***'s biological mother's] first name and [your/her] age.	__ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ YRS.
Now I will ask about other adults who are important in ***'s life. I'll begin by asking if you have any information about them. First, do you have ANY information about ***'s biological father?	
6. Please tell me [your/***'s biological father's] first name and [your/his] age.	__ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ YRS.
7. Please turn to **CARD 4/MOTHERS MARITAL STATUS CARD** and tell me what is [your/***'s biological mother's] CURRENT marital status is with [you/***'s biological father]. Please tell me the number.	
Married to and living with ***'s biological father..... Married but NOT living with ***'s biological father ..... Not married but living with ***'s biological father as though married ..... Widowed (biological father is dead) ..... Divorced from ***'s biological father ..... Never married to ***'s biological father and not living together ..... Refused ..... Not applicable/Biological mother is deceased ..... Don't know ..... **IF Q2 IS CODED "1" OR "3", GO TO Q3.** **IF Q2 IS CODED "2", "5" OR "6", GO TO Q2A.** **IF Q2 IS CODED "4", "7", "8" OR "9", GO TO Q2B.**	
2A. How old was *** when [you/***'s biological mother] and [you/***'s biological father] last separated? **CODE AGE OF CHILD**	__ __ YRS.
2B. Which of the following best describes [your/***'s biological mother's] CURRENT marital situation? [Are you/Is she]: (**READ**):	Married to and living with someone (NOT ***'s biological father) .....1 Not married but living with someone (NOT biological father) as though married.....2 NOT married and NOT living with anyone as though married.....3 Other (specify).....4 Refused .....7 Not applicable.....8 Don't know 9
8. How many years of schooling did [you/***'s biological mother] complete? **(School=0-12; College=13-16; Graduate school=17+)**	__ __ YRS Refused .....7 Don't know 9
9. Now I want to ask you a few questions about your finances and household	

income. Please remember that everything you tell me in the interview is confidential. Please turn to **CARD10/INCOME CARD**. Look at these figures and tell me which best represents the total income to ***'s household before taxes for the PAST YEAR. Please include salaries, wages, social security, welfare, and any other income for everyone living in this household (include child support or alimony). You can tell me the amount or the number on the CARD. **IF RESPONDENT DOESN'T KNOW, SAY: "Give me your best guess"). IF NECESSARY, HELP RESPONDENT CALCULATE TOTA HOUSEHOLD INCOME**.	
No income	$14,000-15,999 18
Less than $1,000	$16,000-17,999 19
$1,000-1,999	$18,000-19,999 20
$2,000-2,999	$20,000-24,999 21
$3,000-3,999	$25,000-34,999 22
$4,000-4,999	$35,000-44,999 23
$5,000-5,999	$45,000-54,999 24
$6,000-6,999	$55,000-64,999 25
$7,000-7,999	$65,000-74,999 29
$8,000-8,999	$65,000-99,999 30
$9,000-9,999	$100,000 and over 17
$10,000-11,999	Refused 77
$12,000-13,999	Don't know 99
Note: Questions created for this study.	

Table 16. Measures: Parental warmth

QUESTIONS	ANSWER CHOICES
I am going to read you some questions about how [you/his mother] and *** get along with each other	
1. Overall, would you say [your/her] relationship with *** is: **(READ)**:	Excellent ..... 0 Good..... 1 Fair (so so) ..... 2 Poor ..... 3 Refused ..... 7 Don't know 9
Now please look at **CARD 18A**	
2. How much can [you/she] really trust [her/him]? **(READ)**:	Not at all..... 0 A little ..... 1 Pretty much ..... 2 A lot ..... 3 Refused ..... 7 Don't know 9
3. To what extent does *** understand [you/his mother]?	0 1 2 3 7 9
4. To what extent [do you/does she] understand***?	0 1 2 3 7 9

5. How much [do you/does she] enjoy being with ***?	0 1 2 3 7 9
Now please look at **CARD 18B**	
6. How often is *** too demanding? **(READ)**:	Never/almost never ..... 0 Once in a while ..... 1 Fairly often..... 2 Very often ..... 3 Refused ..... 7 Don't know 9
7. How often does *** interfere with [your/his mother's] activities?	Never/almost never ..... 0 Once in a while ..... 1 Fairly often..... 2 Very often ..... 3 Refused ..... 7 Don't know 9
8. How often [do you/does she] feel very angry towards ***?	0 1 2 3 7 9
9. How often [do you/does she] feel violent toward ***, or feel like beating [her/him]?	0 1 2 3 7 9
10. How often [do you/does she] feel proud of ***?	0 1 2 3 7 9
11. How often [do you/does she] wish *** was more like other children [you know/she knows]?	0 1 2 3 7 9
12. How often does *** do what [you ask/she asks] [her/him] to do?	0 1 2 3 7 9
13. How often does *** talk back to [you/her] when you ask [her/him] to do something?	0 1 2 3 7 9
Note: abbreviated version of the *Hudson's Index of Parental Attitudes.* Hudson, W. W. (1982). Methodological observations on applied behavioral science. A measurment package for clinical workers. *The Journal of Applied Behavioural Science*, *18*(2), 229–38.	

Table 17. Measures: Parental Monitoring

QUESTIONS	ANSWER CHOICES
The following questions have to do with things that *** and [her/his] caretakers may have talked about, or have done together in the past year, since [MONTH] of last year. Some of these questions may not apply to ***. If that is the case, just tell me.	
1. Please, look at **CARD 14** again. When *** did not come home by the time that [she/he]	Never or almost never .....0 Sometimes .....1 Almost always or always.....2

was supposed to, how often would you or ***'s other caretakers know? **(READ)**:	Refused ..... 7 Not applicable (never goes out without supervision) ..... 8 Don't know 9
2. When you or another adult are not at home, how often does *** leave a note or call to let you know where [she/he] is going to be? **(NA=8=Never goes out without supervision)**	0 1 2 7 8 9
3. How often do you or ***'s others caretakers know where [she/he] is when [she/he] is not at home?	0 1 2 3 9
4. How often do you or ***'s other caretakers know what [she/he] is doing when [she/he] is not at home?	0 1 2 3 9
5. Where does *** usually go after school (**IF NOT IN SCHOOL ASK:** Where is [she/he] most of the time)? **DO NOT READ. CODE FROM RESPONSE. PROBE AS NEEDED**.	Home, supervised by an adult or a responsible minor ..... 0 Home, unsupervised ..... 1 Somewhere else, supervise ..... 2 Somewhere else, unsupervised ..... 3 Refused ..... 7 Don't know 9
6. Where is *** usually when there is no school, like on weekends or vacations? **DO NOT READ. CODE FROM RESPONSE: PROBE AS NEEDED**.	Home, supervised by an adult or a responsible minor ..... 0 Home, unsupervised ..... 1 Somewhere else, supervise ..... 2 Somewhere else, unsupervised ..... 3 Refused ..... 7 Don't know 9
7. How many of ***'s friends do you or [her/his] other caretakers know? (**READ**):	None ..... 0 Some ..... 1 Most ..... 2 All ..... 3 Refused ..... 7 Not applicable ..... 8 Don't know 9
8. How much do you control the programs that [she/he] watches on television? (**READ**):	Not at all ..... 0 A little ..... 1 Quite a bit ..... 2 Very much ..... 3 Refused ..... 7 Don't know 9
9. How much do you monitor or restrict the games [she/he] plays? (**READ**)	Not at all ..... 0 A little ..... 1 Quite a bit ..... 2 Very much 3

	Refused .....7 Don't know 9
Note: Patterson, G. R., & Stouthamer-Loeber, M. (1984). The correlation of family management practices and delinquency. *Child Development,* 55(4), 1299–1307	

Table 18. Measures: Parental coercive discipline

QUESTIONS	ANSWER CHOICES
Please look at **CARD 18B** again. I am going to read you some questions about how you discipline ***. For each question, please tell me whether you do this never or almost never, once in a while, fairly often or very often.	
1. When *** has done something wrong, or something that you do not approve of, how often do you take away ***'s privileges, like T.V. or movies?	Never/almost never ..... 0 Once in a while ..... 1 Fairly often..... 2 Vey often ..... 3 Refused 7
2. When *** has done something wrong, or something that you do not approve of, how often do you ignore *** or act cold and unfriendly to [her/him]?	Never/almost never ..... 0 Once in a while ..... 1 Fairly often..... 2 Vey often ..... 3 Refused 7
3. When *** has done something wrong, or something that you do not approve of, how often do you yell or swear at [her/him]?	Never/almost never ..... 0 Once in a while ..... 1 Fairly often..... 2 Vey often ..... 3 Refused 7
4. When *** has done something wrong, or something that you do not approve of, how often do you spank or pinch [her/him]	Never/almost never ..... 0 Once in a while ..... 1 Fairly often..... 2 Vey often ..... 3 Refused 7
5. When *** has done something wrong, or something that you do not approve of, how often do you slap [her/his] face?	Never/almost never ..... 0 Once in a while ..... 1 Fairly often..... 2 Vey often ..... 3 Refused 7
6. When *** has done something wrong, or something that you do not approve of, how often do you hit [her/his] with a belt or other objects?	Never/almost never ..... 0 Once in a while ..... 1 Fairly often..... 2 Vey often ..... 3 Refused 7
Note: Goodman, S. H., Hoven, C. W., Narrow, W. E., Cohen, P., Fielding, B., Alegria, M., … Dulcan, M. K. (1998). Measurement of risk for mental disorders and competence in a psychiatric epidemiologic community survey: The NIMH methods for the epidemiology of child and adolescent mental disorders (MECA) Study. *Social Psychiatry and Psychiatric Epidemiology*, 33(4), 162–173.	

Table 19. Measures: Familism

QUESTIONS	ANSWER CHOICES
The next questions ask your opinion about family relationships and values. Please look at **CARD 22**.	
1. Families should make great sacrifices in order to guarantee a good education for their children. Do you… (**READ**):	Strongly agree....0 Somewhat agree....1 Somewhat disagree....2 Strongly disagree....3 Refused....7 Don't know....9
2. Family members should help economically with the support of younger brothers and sisters.	Strongly agree....0 Somewhat agree....1 Somewhat disagree....2 Strongly disagree....3 Refused....7 Don't know....9
3. When someone has problems [she/he] should be able to count on help from [her/his] relatives.	Strongly agree....0 Somewhat agree....1 Somewhat disagree....2 Strongly disagree....3 Refused....7 Don't know....9
4. Much of what a daughter or a son does should be done to please her or his parents.	Strongly agree....0 Somewhat agree....1 Somewhat disagree....2 Strongly disagree....3 Refused....7 Don't know....9
5. The family should consult close relatives (aunts, uncles) concerning its important decisions.	Strongly agree....0 Somewhat agree....1 Somewhat disagree....2 Strongly disagree....3 Refused....7 Don't know....9
6. The family should help within their means if a relative is in financial difficulty.	Strongly agree....0 Somewhat agree....1 Somewhat disagree....2 Strongly disagree....3 Refused....7 Don't know....9
7. Aging parents should live with their relatives.	Strongly agree....0 Somewhat agree....1 Somewhat disagree....2 Strongly disagree....3 Refused....7 Don't know....9
8. Older family members should be consulted about decisions that affect the family.	Strongly agree....0 Somewhat agree....1 Somewhat disagree....2 Strongly disagree....3

	Refused .....7 Don't know 9
9. A family should share their home with aunts, uncles or first cousins if they are in need.	Strongly agree.....0 Somewhat agree.....1 Somewhat disagree .....2 Strongly disagree .....3 Refused .....7 Don't know 9
10. A person should be embarrassed about the bad things done by their sisters of brothers.	Strongly agree.....0 Somewhat agree.....1 Somewhat disagree .....2 Strongly disagree .....3 Refused .....7 Don't know 9
Note: Sabogal, F., Marin, G., Oterosabogal, R., Marin, B. V, & Perezstable, E. J. (1987). Hispanic familism and acculturation. What changes and what doesn't. Hispanic *Journal of Behavioral Sciences*, 9(4), 397–412.	

Table 20. Measures: Parent social support

QUESTIONS	ANSWER CHOICES
Most people discuss important matters with other people. We also need people we can depend on for help. Looking back over the past 12 months…	
1. Who can you depend on to help you solve important things in your life? (8=No spouse/partner) (**READ AND CODE FOR EACH**). A. Biological mother…….. B. Biological father……	 0 2 7 8 9 0 2 7 9
IF YES, ASK B1. How many other relatives? C. Your neighbours/fiends?	 __ __ NO. 0 2 7 9
IF YES, ASK C1. How many neighbours/fiends? D. Religious counsellors? E. Any others?	 __ __ NO. 0 2 7 9 0 2 7 9
IF YES, ASK E1. How many others?	 __ __ NO.
2. Who can you depend on for help with practical things, like doing favours for you? (8=No spouse/partner) Your spouse/partner…….. Your other relatives…..…… Your neighbours/friends……...	 0 2 7 8 9 0 2 7 9 0 2 7 9
3. In general, how satisfied are	Very satisfied 0

you with the amount of support that you receive in your life?	Somewhat satisfied ..... 1 Somewhat unsatisfied ..... 2 Very unsatisfied ..... 3 Refused ..... 7 Don't know 9
4. How often do you get together with family members you don't live with? (**READ**):	At least once a week ..... 0 Less than once a week but at least once a month ..... 1 Several times a year but less than once a month ..... 2 Once a year or less ..... 3 Never ..... 4 Refused ..... 7 Don't know 9
5. How often do you attend to family gatherings? (**READ**):	At least once a week ..... 0 Less than once a week but at least once a month ..... 1 Several times a year but less than once a month ..... 2 Once a year or less ..... 3 Never ..... 4 Refused ..... 7 Don't know 9
6. How often do family members help you take care of your kids? (**READ**):	At least once a week ..... 0 Less than once a week but at least once a month ..... 1 Several times a year but less than once a month ..... 2 Once a year or less ..... 3 Never ..... 4 Refused ..... 7 Don't know 9
Note: Thoits, P. A. (1995). Stress, coping, and social support processes: Where are we? What next? *Journal of Health and Social Behavior*, 35 (Extra Issue), 53–79.	

Table 21. Measures: Parental psychopathology

QUESTIONS	ANSWER CHOICES
I am going to read you some questions about whether [parent name] has ever had certain problems. Please say "yes" if any of these people have ever had that problem in their **whole life**. Then please tell me **who** had the problem. If more than one person has had the problem, be sure to tell me about each one of them. (No=0, Yes=2, Refused=7, Don't applicable=8, Don't know=9).	
1. Have any of [you/them] ever had a serious mental illness, emotional problem, or nervous breakdown?	
IF NO, GO TO Q2.	0 2 7 9
IF YES, ASK: Who was that? (Anyone else?)	

	A. Biological mother……..	0	2	7	8	9
	B. Biological father……	0	2	7	8	9
	C. Other mother figure……...	0	2	7	8	9
	D. Other father figure…….	0	2	7	8	9
2.	Have any of [you/them] ever seen a psychiatrist, psychologist, social worker, doctor, or other health professional, for a psychological or emotional problem?					
	IF NO, GO TO Q3.	0	2	7		9
	IF YES, ASK: Who was that? (Anyone else?)					
	A. Biological mother……..	0	2	7	8	9
	B. Biological father……	0	2	7	8	9
	C. Other mother figure……...	0	2	7	8	9
	D. Other father figure…….	0	2	7	8	9
3.	Have any of [you/them] ever stayed overnight or longer in a hospital or treatment facility because of a mental or emotional problem or a drug or alcohol problem?					
	IF NO, GO TO Q4.	0	2	7		9
	IF YES, ASK: Who was that? (Anyone else?)					
	A. Biological mother……..	0	2	7	8	9
	B. Biological father……	0	2	7	8	9
	C. Other mother figure……...	0	2	7	8	9
	D. Other father figure…….	0	2	7	8	9
4.	Has a doctor ever given any of [you/them] any medicine for a psychological or emotional problem?					
	IF NO, GO TO Q5.	0	2	7		9
	IF YES, ASK: Who was that? (Anyone else?)					
	A. Biological mother……..	0	2	7	8	9
	B. Biological father……	0	2	7	8	9
	C. Other mother figure……...	0	2	7	8	9
	D. Other father figure…….	0	2	7	8	9
5.	Have any of [you/them] ever had a drinking problem, or been thought to have a drinking problem?					
	IF NO, GO TO Q6.	0	2	7		9
	IF YES, ASK: Who was that? (Anyone else?)					
	A. Biological mother……..	0	2	7	8	9
	B. Biological father……	0	2	7	8	9
	C. Other mother figure……...	0	2	7	8	9
	D. Other father figure…….	0	2	7	8	9
6.	Have any of [you/them] ever had a drug problem or been thought to have a drug problem?					
	IF NO, GO TO Q7.	0	2	7		9
	IF YES, ASK: Who was that? (Anyone else?)					
	A. Biological mother……..	0	2	7	8	9
	E. Biologicalfather……	0	2	7	8	9
	B. Other mother figure……...	0	2	7	8	9
	C. Other father figure…….	0	2	7	8	9

7. Have any of [you/them] ever been put in jail, or arrested, or convicted of a crime, other than drunk driving?					
IF NO, GO TO Q8.	0	**2***	7		9
IF YES, ASK: Who was that? (Anyone else?)					
A. Biological mother……..	0	2	7	8	9
B. Biological father……	0	2	7	8	9
C. Other mother figure……...	0	2	7	8	9
D. Other father figure…….	0	2	7	8	9
8. Have any of [you/them] ever tried to kill [yourself/themselves]?					
IF NO, GO TO Q10.	0	2	7		9
IF YES, ASK: Who was that? (Anyone else?)					
A. Biological mother……..	0	2	7	8	9
B. Biological father……	0	2	7	8	9
C. Other mother figure……...	0	2	7	8	9
D. Other father figure…….	0	2	7	8	9
IF YES TO ANY Q8A-Q8D, ASK 9. This may be a painful question, but did [PERSONS MENTIONED IN Q8A-D] actually kill [her/himself]?					
IF NO, GO TO Q10.	0	2	7		9
IF YES, ASK: Who was that? (Anyone else?)					
A. Biological mother……..	0	2	7	8	9
B. Biological father……	0	2	7	8	9
C. Other mother figure……...	0	2	7	8	9
D. Other father figure…….	0	2	7	8	9
10. Have any of [you/them] ever had an *ataque de nervios* (nervous attack)?					
IF NO, GO TO Q11.	0	2	7		9
IF YES, ASK: Who was that? (Anyone else?)					
A. Biological mother……..	0	2	7	8	9
How many attacks?	__ __ NO.				
B. Biological father……	0	2	7	8	9
How many attacks?	__ __ NO.				
C. Other mother figure……...	0	2	7	8	9
How many attacks?	__ __ NO.				
D. Other father figure…….	0	2	7	8	9
How many attacks?	__ __ NO.				
11. The next questions are just about you. Have you EVER IN YOUR LIFE been unable to carry out your usual responsibilities for a week or more, such as working, going to school, or taking care or the family, or household?					
IF NO, GO TO Q12.	0	2	7		9
IF YES, ASK: 11A. I do not mean because you were physically ill. I mean when you were not physically ill, were you ever unable to carry out your usual responsibilities for one week or more?	0	2	7	8	9

12. During the LAST YEAR, was there a period of 2 weeks or more, when you felt very depressed and had little interest or pleasure in doing things? **IF NO, GO TO Q13.** **IF YES, GO TO Q14.**	0 2 7 9
13. Have you EVER IN YOUR LIFE had a period of 2 weeks or more when you felt very depressed and had little interest or pleasure in doing things? **IF NO, GO TO Q14.** **IF YES, GO TO Q17.**	0 2 7 9
IF YES TO Q12: During that time when you felt depressed… **IF YES TO Q13**: During the worst 2-week period like that… 14. How often were you bothered by any of the following problems? Please answer looking at **CARD 23.**	
14A. Little interest or pleasure in doing things. (READ)	Not at all..... Several days ..... More than half of the days ..... Nearly every day ..... Refused ..... Don't know .....
14B. Feeling down, depressed, or hopeless	0 1 2 3 7 9
14C. Trouble falling asleep, or sleeping too much	0 1 2 3 7 9
14D. Feeling tired or having little energy	0 1 2 3 7 9
14E. Poor appetite or overeating	0 1 2 3 7 9
14F. Feeling bad about yourself or that you were a failure or have let yourself or your family down.	0 1 2 3 7 9
14G. Trouble concentrating on things, for example concentrating on reading the newspaper or watching television.	0 1 2 3 7 9
14H. Moving or speaking so slowly that other people could have noticed? Or the opposite, being so fidgety or restless that you moved around a lot more than usual?	0 1 2 3 7 9
14I. Thoughts that you would be better off dead or thoughts of hurting yourself in some way?	0 1 2 3 7 9
Note: Lish, J. D., Weissman, M. M., Adams, P. B., Hoven, C. W., & Bird, H. (1995). Family psychiatric screening instruments for epidemiologic studies: Pilot testing and validation. *Psychiatry Research*, 57(2), 169–180.	

Table 22. Measures: Lifetime neglect, verbal and psychological abuse, physical and sexual abuse

QUESTIONS	ANSWER CHOICES

Some of the questions that I am going to ask you are very personal, but remember that we ask the same question of everyone who is in the study. Remember that you don't have to answer any question that you do not want to answer. I want you to tell me how often your parents, foster parents or any adult in your family do the following things when you do something wrong or when they get angry at you. Tell me if it never happened, or how many times it happened. Please look at **CARD 15**.

How many times in your WHOLE LIFE has any adult in your family, your parents or foster parents…

1. Sworn of coursed at you? (READ):	Never/almost never....0 Once....1 2-5 times....2 More than 5 times....3 Refused....7 Don't know....9					
2. Told you that you would be sent away or kicked out of the house?	0	1	**2***	**3***	7	9
3. Left you alone, even when an adult should have been with you?	0	1	**2***	**3***	7	9
4. Let you without the food you needed?	0	1	**2***	**3***	7	9
5. Did not take you to a doctor or hospital when you needed it?	0	1	**2***	**3***	7	9
How many times in your WHOLE LIFE has any adult in your family, your parents or foster parents…						
6. Been so drunk or high on drugs that they could not take care of you?	0	1	**2***	**3***	7	9
7. Hit you with something like a belt, hairbrush, a stick or some other hard object?	0	**1***	**2***	**3***	7	9
8. Hit you with a fist or kicked you hard?	0	**1***	**2***	**3***	7	9
9. Beat you up very hard?	0	**1***	**2***	**3***	7	9
10. Hurt you so badly that you were cut, you had bruises on your body or you had a broken bone or something like that?	0	**1***	**2***	**3***	7	9
11. Severely punished you in some other way I haven't mentioned?	0	**1***	**2***	**3***	7	9
Regarding the experiences you just mentioned…						
12. Were you ever hurt or injured so badly by someone that you think you should have been taken to see a doctor or gone to hospital?	0	2	7	9		

12A. Did you go, or were you taken to a doctor or to a hospital?	0 2 7 9
13. Has any bad injury or punishment that you received ever been reported to the police, social services, or anyone else?	0 2 7 9
14. Has anyone ever touched you or kissed you in a way that made you feel uncomfortable?	0 **2*** 7 9
14A. How many times has this happened to you?	Once.....1 2-5 times.....2 More than 5 times.....3 Refused.....7 Don't know.....9
15. Has anyone ever tried to force you to look at or touch their private parts?	0 **2*** 7 9
15A. Was it an adult? 15B. Was it another kid older than you are? 15C. Was it someone your age?	0 **2*** 7 9 0 **2*** 7 9 0 **2*** 7 9
15D. How many times did it happen?	Once.....1 2-5 times.....2 More than 5 times.....3 Refused.....7 Don't know.....9
16. Has anyone tried to touch you, grab you, or kiss you in a sexual way, or has done something sexual that made you feel afraid, bad or used?	0 **2*** 7 9
16A. Was it an adult? 16B. Was it another kid older than you are? 16C. Was it someone your age?	0 **2*** 7 9 0 **2*** 7 9 0 **2*** 7 9
16D. How many times did it happen?	Once.....1 2-5 times.....2 More than 5 times.....3 Refused.....7 Don't know.....9
Note: Straus, M. A., Hamby, S. L., Finkelhor, D., Moore, D. W., & Runyan, D. (1998). Identification of child maltreatment with the Parent-Child Conflict Tactics Scales: Development and psychometric data for a national sample of American parents. *Child Abuse and Neglect*, 22(4), 249–270; Finkelhor, D., Dziuba-Leatherman, J. (1994). Children as victims of violence: A national survey. *Pediatrics*. 4, 413-420.	

Note: Verbal and physical abuse: items 1-2; neglect: items 3-6; physical abuse: items 7-11; sexual abuse: items 14-16

SUPPLEMENTARY INFORMATION II: ARTICLE 1

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Parental warmth and psychiatric disorders among Puerto Rican children in two different socio-cultural contexts

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ABSTRACT

Background: Parental warmth (PW) has a strong influence on child development and may precede the onset of psychiatric disorders in children. PW is interconnected with other family processes (e.g., coercive discipline) that may also influence the development of psychiatric disorders in children. We prospectively examined the association between PW and child psychiatric disorders (anxiety, major depression disorder, ADHD, disruptive behavior disorders) over the course of three years among Puerto Rican youth, above and beyond the influence of other family factors.

Methods: Boricua Youth Study participants, Puerto Rican children 5 to 13 years of age at Wave 1 living in the South Bronx (New York) (SB) and San Juan and Canguas (PR) (n = 2,491), were followed for three consecutive years. Youth psychiatric disorders were measured by the Diagnostic Interview Schedule for Children-IV (DISC-IV). Generalized Linear Mixed models tested the association between PW (Wave 1) and psychiatric disorders in the next two years adjusting for demographic characteristics and family processes.

Results: Higher levels of PW were related to lower odds of child anxiety and major depressive disorder over time (OR = 0.69[0.60; 0.79]; 0.49[0.41; 0.58], respectively). The strength of the association between PW and ADHD and disruptive behavior disorder declined over time, although it was still significant in the last assessment (OR = 0.44[0.37; 0.52]; 0.46[0.39; 0.54], respectively). PW had a unique influence on psychiatric disorders beyond the influence of other parenting and family processes. Stronger associations were observed among girls for depression and ADHD.

Conclusions: Incorporating PW behaviors such as acceptance, support, and comforting into interventions focused on parenting skills may help prevent child psychiatric disorders.

1. Introduction

Considering the large and growing number of Latino families in the U.S. and the high risk for psychopathology present in the acculturation Latino subgroup (i.e., Puerto Rican individuals (Alegría et al., 2007)), it is important to understand risk and protective factors relevant for these families. For individuals from an ethnic group, such as Latino youth, whose culture is characterized by a strong family orientation, parenting practices may exert a central influence on the development of psychopathology. There is initial evidence supporting the importance of parenting (i.e., positive involvement, problem solving, effective discipline, monitoring and skill building) for Puerto Rican children (e.g., Domenech et al., 2013). However, prior studies have been limited by cross-sectional design, focus on symptoms (rather than clinically meaningful disorders) and fail to identify the specific effect of the association between key parenting practices and child psychopathology.

Parental warmth (PW) - a child-rearing practice that includes acceptance, affection, nurturance, support, love, and enthusiasm for children's endeavors and accomplishments - is a critical parenting behavior influencing child development (Khaleque and Rohner, 2002). Low parental warmth has been associated with youth

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SUPPLEMENTARY INFORMATION III: ARTICLE 2

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ORIGINAL PAPER

Family Structure, Transitions and Psychiatric Disorders Among Puerto Rican Children

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Abstract This paper examines whether family structure and its transitions are associated with internalizing and externalizing psychiatric disorders among Puerto Rican-origin children. It uses longitudinal data (three waves) from the Boricua Youth Study, which includes probability samples of children in the South Bronx (New York) and San Juan (Puerto Rico) (n = 2,142). We also examine factors which may explain how family structure and transitions may be related to child psychiatric disorders. Our results show that for both internalizing and externalizing disorders there were no significant differences between children of cohabiting (biological or step) parents or of single parents compared to children of married biological parents. In Puerto Rico only, transitioning once from a two-parent family to a single-parent family was related to child internalizing disorders. Family transitions were not associated with externalizing disorders at either site. Context may be an important factor shaping the risk that family dissolution is followed by an internalizing disorder among children.

Keywords Cohabitation · Externalizing disorders · Family structure · Family transitions · Internalizing disorders

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Introduction

Changes in family structure can be important in influencing a child's life. In the past few decades, family arrangements in the United States (US) have changed dramatically. Early studies on the topic mostly included only two types of families: two-parent and single-parent families. The "single-parent" category of these early studies included non-differentiated family structures (e.g. single parents and also cohabiting parents who never married) without taking into account the nature of relationships of the adults in the household (Manning and Lichter 1996). More recently, single parents sharing their lives with a romantic partner have been categorized as category as cohabiting parents. Despite the decrease in marriages and the increase in divorces, nationally, the rate of single motherhood has remained constant at 9 % since 1992 (Vespa et al. 2013). Lately, it has been estimated that cohabitation is the family structure of 18 % of the U.S. population (Kennedy and Bumpass 2008). Therefore, non-married family structures may be playing an increasingly important role in the lives of Americans.

There are complexities involved in studying family structure and its impact on child development, specifically, on the development of psychiatric disorders by children, which can be manifested either as emotional suffering (internalizing problems) or problematic overt behaviors (externalizing problems). Attempts to study how different family arrangements may impact children have been made. Cohabiting-unmarried parents sharing residence with children-, to the extent that it may imply a more tenuous relationship than marriage, may represent a higher risk for child development when compared to married parents (Manning and Lamb 2003). Important implications of family structure on child development can be missed if the presence of a

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SUPPLEMENTARY INFORMATION IV: PERMISSIONS

Permission was given to use the figures and tables from the following papers (correspondence available upon request):

Bird, H., Canino, G. J., Davies, M., Duarte, C. S., Febo, V., Ram, R., … Loeber, R. (2006). A study of disruptive behavior disorders in Puerto Rican youth: I. Background, design, and survey methods. *Journal of the American Academy of Child and Adolescent Psychiatry*, *45*(9), 1032–1041.

Centers for Disease Control and Prevention's National Health and Nutrition Examination Survey (NHANES). Retrieved Frebruary 16, 2017, from https://www.cdc.gov/growthcharts/who_charts.htm

Krogstad, J. M. (2015). Puerto Ricans leave in record numbers for mainland U.S. Retrieved February 14, 2016, from http://www.pewresearch.org/fact-tank/2015/10/14/puerto-ricans-leave-in-record-numbers-for-mainland-u-s/

Merikangas, K., Jian-ping, H., Burstein, M., Swanson, S., Avenevoli, S., Lihong, C., … Swendsen, J. (2010). Lifetime prevalence of mental disorders in US adolescents: Results from the National Comorbidity Study-Adolescent supplement. *Journal of the American Academy Children Adolescent Psychiatry*, *49*(10), 980–989.

National Research Council and Institute of Medicine. (2004). *Reducing underage drinking: A collective responsibility*. (Committee on Developing a Strategy to Reduce and Prevent Underage Drinking, R. Bonnie, & M. O'Connell, Eds.). Washington DC: The National Academy Press.

Pew Research Center. (2015). *Parenting in America: Outlook, worries, aspirations are strongly linked to financial situation* (Vol. 1).

Substance Abuse and Mental Health Services Administration. (2013). *Results from the 2013 National Survey on Drug Use and Health: Summary of national findings, NSDUH Series H-48*. Rockville, MD: Substance Abuse and Mental Health Services Administration, 2014. http://doi.org/NSDUH Series H-41, HHS Publication No. (SMA) 11-4658

Vespa, B. J., Lewis, J. M., & Kreider, R. M. (2013). *America's families and living arrangements: 2012, current population reports. U.S. Census Bureau.* Washington, D.C.


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