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INDIVIDUAL AND FAMILY PERFECTIONISM

AND ITS RELATIONSHIP TO DEPRESSION, ANXIETY, AND SELF-ESTEEM

AMONG LATINO COLLEGE STUDENTS

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ABSTRACT

This study examined the relationship between individual and family perfectionism and mental health functioning among two hundred and seven Latino college students. One aim of this study was to test the factor structure of the Almost Perfect Scale-Revised (APS-R; Slaney, Rice, Mobley, Trippi, & Ashby, 2001) with Latino college students by conducting a confirmatory factor analysis utilizing APS-R scores. Another aim of this study was to examine the relevance of the construct of family perfectionism among Latino college students by performing an exploratory factor analysis on the Almost Perfect Scale-Family (APS-F; Methikalam, Slaney, & Wang, 2005), a scale used to measure perceived family perfectionism. An examination of the underlying factors of the APS-R, and the associations between the scale's subscales and the dependent variables of the study, depression, anxiety and self-esteem suggest that the APS-R is a valid measure of perfectionism among Latino college students. The results of this study also provided support for the psychometric properties of the APS-F with Latino college students. Of interest was that the Family Discrepancy subscale of the APS-F, which measures an individual's perceptions that he or she is failing to meet the high standards set by his or her family, was significantly and positively associated with depression and anxiety, and negatively associated with self-esteem.

This study also investigated the differences between adaptive perfectionists, maladaptive perfectionists, and non-perfectionists on the variables of depression, anxiety, and self-esteem. A two stage cluster analysis consisting of a hierarchical and a nonhierarchical analysis was conducted utilizing APS-R scores to determine perfectionism clusters based on individual perfectionism. To further investigate family perfectionism and to identify perfectionist groups based on family perfectionism, the same process of conducting a cluster analysis was performed utilizing APS-F scores. For both cluster analyses, three groups of perfectionists were identified:

adaptive perfectionists, maladaptive perfectionists and non-perfectionists. MANOVAs assessed if there were significant differences between perfectionism clusters on the variables of depression, anxiety, and self-esteem. Consistent with the results of previous studies, individual maladaptive perfectionists reported significantly higher scores on depression and anxiety and significantly lower self-esteem compared to the individual adaptive perfectionists. However, individual maladaptive perfectionists were not significantly different from the individual non-perfectionists on the measures of depression, anxiety, and self-esteem.

With regards to family perfectionism clusters, there were no significant differences between maladaptive perfectionists family, adaptive perfectionists family, and non-perfectionists family on the dependent variables of depression, anxiety, and self-esteem. Several interpretations based on the results were offered highlighting the importance of familism and acculturation due to the relevance of these cultural variables among Latinos. The clinical implications based on these findings were discussed, and suggestions for future research were provided.

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Chapter 1
Introduction

This chapter will include a literature review on the topic of perfectionism, and will discuss whether perfectionism is maladaptive or adaptive. In this segment of the dissertation I will introduce the Almost Perfect Scale-Revised (APS-R; Slaney, Rice, Mobley, Trippi, & Ashby, 2001) and the Almost Perfect Scale Family (APS-F; Methikalam, Slaney, & Wang, 2005), and will highlight the importance of investigating the cross-cultural validity of these as well as other perfectionism scales. A brief overview of the goals of this study will be discussed at the end of this chapter.

The term perfectionism has received much attention from researchers in the field of psychology. Case studies have described perfectionists as individuals who experience psychological distress from their perceived inability to attain perfection, with some ending in suicide (Blatt, 1995). Perfectionism has been linked to psychological problems, such as depression and anxiety, (Accordino, Accordino, & Slaney, 2000; Bieling, Israeli, & Antony, 2004; Chang, Banks, & Watkins, 2004; Grzegorek, Slaney, Franze, & Rice, 2004; Mobley, Slaney, & Rice, 2005; Rice & Slaney, 2002; Suddarth & Slaney, 2001; Slaney, Rice, Mobley, Trippi, & Ashby, 2001; Wang, Slaney, & Rice, 2007; Wang, Yuen, & Slaney, 2009), and eating disorders (Slade, 1982; Garner, Olmstead, & Polivy, 1983). Though there have been abundant studies related to perfectionism, a definition for the construct has yet to be agreed upon by researchers (Flett & Hewitt, 2002). For the purposes of this study, perfectionism will be conceptualized using Slaney, Rice, Mobley, Trippi, and Ashby's, (2001) view of perfectionism. Slaney et al. (2001) argued that perfectionism not only included having high standards and being orderly but it also entails a discrepancy defined as "the perception that one consistently fails to

meet the high standards one has set for oneself (p.69)". Slaney et al. (2001) asserted that the maladaptive components of perfectionism are reflected in this concept of discrepancy, whereas having high standards and being orderly represent the adaptive part of perfectionism.

One issue that has arisen regarding the conceptualization of perfectionism has centered on the theoretical question of whether it is adaptive or maladaptive. On one side of the debate are researchers who have focused on the pathological aspects of perfectionism and have viewed it as a negative psychological trait (Burns, 1980). On the other end of this continuum are theorists who have asserted that perfectionism is not necessarily negative and that it in fact may have adaptive aspects (Slaney et al., 1996; Slaney et al, 2001). Though many studies have correlated the adaptive dimensions of perfectionism with variables such as self-esteem (Accordino, Accordino, & Slaney, 2000; Grzegorek, Slaney, Franze, & Rice, 2004; Mobley, Slaney, & Rice, 2005; Rice & Slaney, 2002; Slaney et al., 2001), academic achievement (Accordino et al., 2000; Mobley et al., 2005; Slaney et al., 2001), and GPA satisfaction (Grzegorek et al., 2004) many of the recent studies seem to focus on the relationship between maladaptive perfectionism and depression (Bieling, Israeli, & Antony, 2004; Chang, Watkins, & Banks, 2004; Grzegorek et al., 2004; Hewitt & Flett, 1991b; Suddarth & Slaney, 2001).

Another debate in the study of perfectionism relates to how perfectionism is defined since some theorists view perfectionism as one-dimensional (Burns, 1980; Garner et al., 1983) while other researchers view it as having various dimensions (Frost, Marten, Lahart, & Rosenblate, 1990; Hewitt & Flett, 1991b; Slaney et al., 1996). Findings from numerous studies have supported the multidimensionality of perfectionism (Flett & Hewitt, 2002). At the present time, the most widely used instruments to assess perfectionism are multidimensional. These scales are the APS-R by Slaney et al. (1996), the Multidimensional Perfectionism Scale (MPS) by Frost et al. (1990), and the Multidimensional Perfectionism Scale (MPS) by Hewitt and Flett (1991b).

Though there has been a great deal of progress in understanding the components of perfectionism, and their relationships to other constructs, more work needs to focus on the generalizability of these results to other cultural groups. Most of the studies conducted on perfectionism have used majority samples (Flett, Greene, & Hewitt, 2004; Grzegorek, Slaney, Franze, & Rice, 2004; Mobley, Slaney, & Rice, 2005). Since most studies examining the psychometric properties of perfectionism scales have mainly utilized Caucasian samples, the need to test the construct validity of current perfectionism scales with cross-cultural groups remains. One group which has been understudied in the area of perfectionism has been Latinos. Research with Latinos is needed given they are the largest and fastest growing minority and represent approximately 44 million people, a large sector of the U.S. population (U.S. Census Bureau, 2006).

The purpose of this study will be to address the lack of research on perfectionism among Latinos. Specifically, the construct validity of the Almost Perfect Scale-R (Slaney et al., 1996) will be examined utilizing a sample of Latino college students. A question this study will investigate is whether the APS-R's three factor structure of Order, Standards, and Discrepancy will be replicated with a Latino population as it has with mainstream groups. To date no studies have investigated the construct validity of the APS-R with Latinos.

This study will also examine the relationship between the subscales of the APS-R, and measures of anxiety, depression, and self-esteem. Discrepancy scores from the APS-R, which reflect the maladaptive components of perfectionism, have been found to be positively correlated with depression and anxiety (Accordino et al., 2000; Mobley et al., 2005; Slaney et al., 2001; Wang et al., 2007). Other studies have also found a positive relationship between maladaptive perfectionism and depression and anxiety (Bieling, Israeli, & Antony, 2003; Chang, Watkins, & Banks, 2004; Grzegorek, Slaney, Franze, & Rice, 2004; Rice & Slaney, 2002; Suddarth & Slaney, 2001), and a positive relationship between adaptive perfectionism and self-esteem

(Grzegorek et al., 2004; Mobley et al., 2005; Rice et al., 2002). In this study, cluster analysis will be used to identify groups of perfectionists based on APS-R scores (Grzegorek, Slaney, Franze, & Rice, 2004; Rice & Slaney, 2002). The study will examine whether maladaptive perfectionists will have higher scores on measures of negative psychological variables such as depression and anxiety, compared to adaptive perfectionists and non-perfectionists, and whether adaptive perfectionists will have higher scores on a measure of self-esteem.

Researchers (Gil & Vega, 1996; Sabogal, Marin, Otero-Sabogal, Marin, & Perez-Stable, 1987; Smart & Smart, 1995) have consistently pointed out that the family plays a central role in the lives of Latinos. Unfortunately, research investigating the family and perfectionism among Latinos has been neglected. One way to begin this research is to investigate the construct of perfectionism as perceived as deriving from the family. By assessing family perfectionism we can investigate whether individual or family maladaptive perfectionism is more strongly related to negative psychological dimensions. This study will examine the factor structure of a newly developed scale called the Almost Perfect Scale Family (APS-F; Methikalam, Slaney, & Wang, 2005), which was developed based on the items of the APS-R. The items of the APS-F measure an individual's perceptions of the influence of her or his family's perfectionism. If the factor structure of the APS-F is similar to that of the APS-R it will include a Discrepancy subscale reflecting an individual's perception that he or she does not meet the standards set by the family. This study will investigate the factor structure of the APS-F, and will examine how it relates to the psychological variables of depression, anxiety, and self-esteem.

Chapter 2

Literature Review

Perfectionism as a Measurable Construct

This chapter will provide a brief overview of the major measures of perfectionism, and discuss how the authors of these measures have conceptualized perfectionism. Another segment of this chapter will discuss how the APS-R was developed to identify the adaptive and maladaptive components of perfectionism. A review of the studies utilizing the APS-R to examine the relationship between maladaptive perfectionism and depression and anxiety will be provided. It will be argued that there is a need for perfectionism to study perfectionism across cross-cultural groups. The APS-R has been the perfectionism instrument most widely used with cross-cultural groups. A summary of the studies using the APS-R with cross-cultural samples will be provided. This chapter will also discuss the family as an important cultural variable among Latinos, and point out the relevance of studying family perfectionism in this group. A new instrument used to measure family perfectionism will be discussed. The last portion of this chapter will outline the hypotheses of this dissertation.

Flett and Hewitt (2002) note that defining perfectionism can be a challenge for new researchers because there are a variety of ways to conceptualize and measure perfectionism that will consequently influence the way one defines perfectionism. The Burns Perfectionism Scale (BPS; Burns, 1983) measures the dysfunctional attitudes associated with perfectionism, and was derived from the Dysfunctional Attitudes Scales (DAS; Weissman & Beck, 1978). The DAS measures the self-defeating attitudes related to psychopathology such as clinical depression and anxiety. Hewitt and Dyck (1986) reported an alpha of .70, and a 2-month test-retest reliability of

.63 for the BPS. Hewitt, Mittelstaedt, and Wollert (1989) found the BPS correlated with the Self-Criticism scale of the Depressive Experiences Questionnaire ($r = .52$) attesting to its convergent validity but had a low correlation of $r = .15$ with the Dependency Scale of the DEQ. Another study supporting the convergent validity of the BPS found this scale was significantly and positively correlated with other perfectionism scales such as the Multidimensional Perfectionism Scale (Frost, Marten, Lahart, & Rosenblate, 1990) and the Eating Disorder Inventory (Garner, Olmstead, & Polivy, 1983).

Slaney and Johnson (1995) started their research on perfectionism asserting that the construct has both adaptive and maladaptive dimensions. Slaney, Mobley, Trippi, Ashby, and Johnson (1996) developed the Almost Perfect Scale-Revised to assess these components. Furthermore, in their investigations Slaney et al. (1996) found that the construct of perfectionism is composed of three factors they named High Standards, Order, and Discrepancy. The High Standards subscale measures the expectations an individual sets for his or her performance (Slaney et al., 1996). The Order subscale measures an individual's need for organization and neatness, whereas the Discrepancy subscale captures an individual's experiences related to her or his perceived performance in meeting her or his high standards (Slaney et al., 1996). The APS-R has 23 items, and three subscales named High Standards, Order, and Discrepancy. Several studies have supported the view that the Discrepancy subscale measures the maladaptive components of perfectionism (Grzegorek, Slaney, Franze, & Rice, 2004; Rice & Slaney, 2002; Slaney et al., 2001; Suddarth & Slaney, 2001) and have associated the High Standards and Order subscales with adaptive variables such as self-esteem (Accordino, Accordino, & Slaney, 2000; Rice, Ashby, & Slaney, 1998) and academic achievement (Accordino, Accordino, & Slaney, 2000). Other studies have found support for the validity and reliability of the scale (Accordino et al., 2000; Grzegorek et al., 2004; Mobley et al, 2005; Slaney et al., 2001; Suddarth et al., 2001; Wang, Yuen, & Slaney, 2009; Wang, Slaney, & Rice, 2007).

Two other scales with the same name have been developed, the Multidimensional Perfectionism Scale (Frost, Marten, Lahart, & Rosenblate, 1990; Hewitt & Flett, 1991b). The Multidimensional Perfectionism Scale (FMPS) developed by Frost and his associates (1990) includes 35 items. The scale purports to measure six constructs that are related to the self: high personal standards, organization, doubts about actions, concern over mistakes, as well as parental expectations and perceived parental criticism. In 1990, Frost et al. (1990) conducted two studies to identify the underlying factors associated with perfectionism. Frost et al. (1990) conducted factor analyses examining the FMPS for these two studies. The results supported a six factor structure in both, and showed good internal consistency with coefficients ranging from .77 to .93 in both studies. Frost et al. (1990) found evidence to support the convergent validity of the FMPS by reporting the scale's positive correlations with the Burns Perfectionism Scale, as well as the Eating Disorder Inventory-Perfectionism subscale. In their summary of the studies investigating the construct, concurrent, and discriminant validity of the FMPS, Enns and Cox (2002) suggest the FMPS is a valid instrument for measuring perfectionism. Enns et al. (2002) also reported that several studies have found strong correlations between the FMPS subscales and the Beck Depression Inventory (Beck, 1978), as well as other measures of psychopathology such as obsessive compulsive disorder and eating disorders. In summary, the FMPS has been found to be a psychometrically sound instrument measuring dimensions of perfectionism. The FMPS subscales have been related to a variety of negative psychological measures, particularly depression.

Hewitt and Flett (1991b) conceptualized perfectionism from yet another angle, and argued that it is essential to look at the interpersonal dimensions of perfectionism. Hewitt and Flett's Multidimensional Perfectionism Scale (HMPS; 1991b) includes the Self-Oriented Perfectionism (SOP) subscale, the Other-Oriented Perfectionism (OOP) subscale, and the Socially Prescribed Perfectionism (SPP) subscale. Self-Oriented Perfectionism relates to the

expectations placed on the self to attain perfectionism and Other-Oriented Perfectionism relates to the expectations placed on others to be perfect. Socially-Prescribed Perfectionism relates to the belief that significant others place unrealistic standards on the individual, evaluate him or her harshly, and expect him or her to meet these standards (Hewitt & Flett, 1991b). The HMPS by Hewitt et al. (1991b) consists of three scales that have 15 items each.

Hewitt and Flett (1991b) conducted a composite of studies to test the psychometric properties of their HMPS. In their first study Hewitt and Flett (1991b) asked 156 college students to rate items on a seven-point scale consistent with three dimensions of perfectionism. The 45 items retained had a mean score between 2.5 and 5.5, had a correlation of less than .25 with the other subscales and .40 or higher with its own subscale. Their second study assessed the construct validity of the HMPS on two samples: 1,106 students and 263 psychiatric patients. A principal component factor analysis was conducted on the student sample data. A scree test revealed that three factors should be retained, and accounted for 36% of the variance. Items from the subscales SOP, SPP and OOP loaded on the first, second, and third factors, respectively. To examine the factor structure's replicability, a test computing the coefficient of congruence was performed, and revealed the factor structure was highly similar across both samples. Hewitt and Flett (1991b) reported internal consistency coefficients ranging from .79 to .89 for the student sample, and .74 to .81 for the patient sample. In their third study which utilized a sample of 104 students, Hewitt and Flett (1991b) reported test-retest reliabilities of .88 for Self-Oriented Perfectionism, .85 for Other-Oriented Perfectionism and .75 for Socially Prescribed Perfectionism over a three month period. Attesting to the convergent validity of the HMPS were the significant positive correlations between the HMPS scales and other scales measuring constructs consistent with the theoretical underpinnings of the HMPS scales (Hewitt & Flett, 1991b). For example, SOP was correlated significantly with constructs dealing with the self: High Standards and Self-Criticism as measured by the Attitudes Toward Self Scale (Carver,

Lavoie, Kuhl, & Ganellen, 1988), and self-blame as measured by the Self- and Other-Blame

Scale (Mittelstaedt, 1989). OOP had a positive relationship with Authoritarianism and

Dominance as measured by The Authoritarianism Scale (Heaven, 1985) and The General

Population Dominance Scale (Ray, 1981) respectively. SPP was related to socially-oriented

behaviors such as Approval for Others as measured by the Irrational Beliefs Test (Jones, 1968),

Fear of Negative Evaluation as measured by the Fear of Negative Evaluation Scale (Leary, 1983),

and external Locus of Control as measured by Rotter's scale (1966). These researchers also found

significant positive relationships between the SOP and SPP subscales and all of the subscales of

the Symptom Check List 90-Revised (SCL-90-R; Derogatis, 1983) which measures a wide range

of negative psychological symptoms (Somatization, OCD, Interpersonal Sensitivity, Depression

Anxiety, Hostility, Phobias, Paranoia, and Psychoticism). OOP was correlated only with the

Phobias and Paranoia subscales. In their fourth study (n=91), Hewitt and Flett (1991b) tested the

hypothesis that SOP would have a higher correlation than SPP or OOP with scores on the Burns

Perfectionism Scale (Burns, 1983), which assesses self-oriented perfectionist attitudes. Another

hypothesis tested was that SPP would be correlated with scores on the Multidimensional Anger

Inventory (Siegel, 1986) and SOP would be correlated with guilt and self-disappointment as

measured by the Problem Situation Questionnaire (Klass, 1987). The results of the fourth study

provided support for both hypotheses. In Hewitt and Flett's (1991b) fifth study they hypothesized

that there would be a relationship between perfectionism, personality disorders, and negative

clinical symptoms among 77 psychiatric patients. By administering the Millon Clinical Multiaxial

Inventory (MCMI; Millon, 1983) they found that SPP and OOP had significant positive

correlations with personality disorders. Though SOP was not correlated to any of the personality

subscales, it was correlated to Somatoform symptoms, Hypomania, and Alcohol Abuse. OOP was

correlated with Histrionic, Narcissistic, Antisocial patterns, Hypomania and Drug Abuse. SPP

was correlated with Schizoid, Avoidant, Passive Aggressive, Schizotypal, Borderline Personality, Anxiety, Dysthymia and Psychotic Depression (Hewitt & Flett, 1991b).

In their literature review investigating the psychometric properties of the HMPS, Enns and Cox (2002) conclude the HMPS is a reliable instrument which demonstrates convergent and discriminant validity. Enns et al. (2002) reported that several studies have found a relationship between depression and SOP and SPP subscales. Hewitt and Flett (1993) have developed a specific-vulnerability hypothesis based on these findings that suggests that perfectionism dimensions may act as vulnerability factors to depression.

In conclusion, Hewitt and Flett's (1991b) HMPS seems to be a valid and reliable multidimensional measure of perfectionism. Hewitt and Flett (1991b) also provided evidence that suggests these dimensions have varying relationships with personality disorders and other maladaptive psychological components.

Though the perfectionism scales developed by Hewitt and Flett (1991b) and Burns (1980) measure unique aspects of perfectionism they focus on the pathological aspects of perfectionism. Slaney and his colleagues (1996; 2001) have been able to contribute to the study of perfectionism by highlighting the adaptive aspects of the construct, and have conducted empirical and qualitative studies to support this concept. As discussed, researchers have been able to relate subscales of the APS-R, specifically the subscales Order and High Standards with adaptive constructs. The APS-R has also distinguished itself by its ability to measure the distress experienced when one is not meeting his or her high standards, another unique aspect of this measure. The following segment will further discuss the development of the APS-R given it has a central focus in this thesis.

The Development of the Almost Perfect Scale-Revised

Since the formation of the research team working on the APS, Slaney and his

associates (1996) have been proponents of the idea that perfectionism includes adaptive

components. Slaney and Ashby (1996) commented that early research investigating perfectionism

overemphasized the negative aspects of perfectionism. After a review of the literature on

perfectionism, these researchers pointed out that research was being based on the view that

perfectionists have excessively high standards, and that having high standards was being

considered a negative psychological characteristic.

Slaney and Ashby (1996) conducted a qualitative study that interviewed 37

participants that either considered themselves perfectionists or were referred by others who

considered them perfectionists. The respondents were asked what perfectionism meant to them

without being prompted by the researchers about its significance. Participants were also asked,

"Why do you think of yourself as perfectionistic", and "What is the core or essence of

perfectionism?" They were also presented with the question, "One line of thinking about

perfectionists suggests that they are neat, orderly, and take care of tasks efficiently. Another

suggests there is a tendency to procrastinate or put things off to the last minute. How do these two

views fit you?" In response to the question about why the respondents thought of themselves as

perfectionists, many answered that it was related to having high standards, and secondly because

they wanted organization and control. The majority of the participants viewed high standards and

order as the essence of their perfectionism. Furthermore, thirty-one of the participant's responses

fell in the neat and orderly category versus eight in the procrastination only category. Twenty-

nine of the responses were rated as being in both categories. Having the findings reveal that not

all individuals with high standards procrastinate supports the view that not all aspects of

perfectionism are negative. Furthermore, though most of the participants experienced some

distress associated with their perfectionism most denied wanting to give up their perfectionism. Slaney and his associates argued (1996) that the findings supported the idea that there are positive aspects to perfectionism because if there were no rewards to perfectionism the participants might be more inclined to change their perfectionistic qualities.

Motivated by the growing empirical and qualitative data supporting the view that there are negative and positive aspects of perfectionism, Slaney, Rice, Mobley, Trippi, and Ashby (2001) revised their perfectionism scale the APS, and developed the APS-R. This scale was designed to include items assessing the adaptive and maladaptive components of perfectionism. Slaney et al.'s (2001) study consisted of three samples of students totaling 809 respondents from two universities in the Midwest, and one from the mid-Atlantic area. The research team agreed that high standards and orderliness reflected an important part of perfectionism. Furthermore, there was a consensus that the negative aspect of perfectionism had to do with the distress associated with the perceived discrepancy between an individual's high standards and her or his performance. Slaney et al. (2001) decided this subscale would be labeled Discrepancy. The 39 items representing the three core aspects of perfectionism were analyzed using an exploratory factor analysis (EFA), and the remaining items were then subjected to a confirmatory factor analysis (CFA). The researchers then used a multiple group analysis, and cross validated the second sample's EFA to the first. The Multiple groups CFA showed a good fit for the data for all items except one in the Discrepancy factor that was consequently dropped. A CFA was conducted on the final items using the second Midwestern sample, and revealed Cronbach's coefficient alphas of .91 for the Discrepancy factor, .85 for the High Standards factor, and .82 for the Order factor revealing adequate internal consistency.

To examine the convergent validity of the APS-R it was administered to two college samples, and compared to other measures such as the HFMPS (Hewitt & Flett, 1991), the FMPS (Frost et al., 1990), the Penn State Worry Questionnaire (Meyer, Miller, Metzger, & Borkovec,

1990), the Marlowe-Crowne Social Desirability Scale (Crowne & Marlowe, 1960), the Beck

Depression Inventory (Beck, 1978), the Rosenberg Self Esteem Inventory, and GPA. The

findings revealed relationships between the subscales of the APS-R (Discrepancy), the FMPS

(Concern Over Mistakes, Doubts about Actions), and the HMPS (Self-Oriented Perfectionism-

SOP, Socially-Prescribed Perfectionism-SPP) which have been shown to measure the

maladaptive components of perfectionism. In both samples, the APS-R Discrepancy subscale was

significantly correlated with the SOP (.31 and .23) and the SPP (.43 and .45) subscales on the

HFMPS. In the second sample, the Discrepancy subscale of the APS-R had positive associations

with the subscales Concern Over Mistakes (.55) and Doubts about Actions (.62) from the FMPS.

For both samples, the Discrepancy subscale was negatively correlated with adjustment scores:

self-esteem   (-.35 and -.44) and GPA (-.18 and -.23). In the second sample, the Discrepancy

subscale had positive correlations with the scale scores measuring two negative psychological

variables, specifically depression and worry as measured by the BDI (Beck, 1978) (.49), and the

Penn State Worry Questionnaire (Meyer et al. 1990) (.46). The APS-R Order Subscale was highly

correlated with a subscale measuring a similar construct, the FMPS Organization subscale (.88).

In addition, the High Standards subscale of the APS-R was correlated with two similar subscales,

Personal Standards of the FMPS (.64), and the Self-Oriented Perfectionism (.55) subscale of the

HMPS. That the High Standards subscale was positively correlated with self-esteem and

adjustment scores, and GPA provided support to the study's hypothesis that having high

standards has positive aspects. Overall, the APS-R appeared to be an adequate measure of

perfectionism to assess the negative and positive aspects of this construct.

In another study investigating the construct and convergent validity of the APS-R,

Suddarth and Slaney (2001) tested the factor structure of the APS-R alongside other

perfectionism scales. Suddarth and Slaney (2001) administered the APS-R, the FMPS, and the

HMPS to 196 undergraduate students. The researchers conducted a principal components analysis

that included the subscales from all of the above mentioned scales. A three factor structure

emerged and the factors were labeled the maladaptive, adaptive, and organization factors. The

maladaptive factor included subscales that were associated with negative psychological

functioning such as, Discrepancy, Concern Over Mistakes, Parental Expectations, Parental

Criticism, Doubts about Actions, and the Socially Prescribed subscale). The adaptive factor

included subscales related to positive psychological functioning (ex. High Standards, Personal

Standards, Self-Oriented and Other Oriented Perfectionism). The third factor, termed

Order/Organization was composed of the Organization Subscale from the Frost et al. (1990)

scale, and the Order subscale from the APS-R.

The results of the study also showed that the APS-R subscales correlated with

subscales of the FMPS and the HMPS which measured similar constructs. For example, the APS-

R Order Subscale and the Frost et al. (1990) Organization subscale were highly correlated. Slaney

et al. (2001) also found positive relationships between the subscales of the APS-R and similar

subscales of the HMPS and the FMPS attesting to the construct validity of the APS-R.

In the same study a simultaneous multiple regression analysis was conducted on the

factors: Maladaptive, Adaptive, and Order/Organization. The dependent variables were the scores

from: the Rotter Internal-External Locus of Control Scale (Rotter, 1966), the Global Severity

Index (GSI) of the Brief Symptom Inventory (BSI; Derogatis & Spencer, 1982), and the State-

Trait Anxiety Scale-Trait subscale (Form Y; Spielberger, Goruch, Lushene, Vagg, & Jacobs,

1983). The F value for the multiple regression for Internal-External Locus of Control was F

$(3,188) = 7.24$, $p < .001$. Only Factor 1 and Factor 2 contributed significantly to the model

accounting for 7% and 4% of the variance, respectively. Factor 1, which was labeled Maladaptive

factor, was positively related to locus of control whereas Factor 2, the Adaptive factor, was

negatively related to locus of control. The Maladaptive factor was also positively related to the

GSI, which assesses psychological symptoms. The F value for GSI was $F (3,188) = 26.67$, $p <$

.001 with Factor 1 accounting for 30% of the variance. The F value for the multiple regression for

trait anxiety was $F(3,188) = 42.15$, $p < .001$. Furthermore, Factor 1 was the only statistically

significant contributor representing 38% of the variance. Though Factor 1 accounted for most of

the variance on the multiple regressions for the GSI and trait anxiety scales, the overall findings

support the contention that perfectionism has negative as well as positive aspects.

Another study that not only highlighted the multidimensionality of the APS-R but also

suggested that perfectionism has adaptive components was conducted by Accordino, Accordino,

and Slaney (2000). Accordino et al. (2000) examined the association between perfectionism and:

GPA, achievement motivation, depression and self-esteem among a sample of 123 high school

students. Achievement was measured by GPA and depression was assessed by the Reynolds

Adolescent Depression Scale (RADS; Reynolds, 1986b). Self-esteem was measured by the

Rosenberg Self-Esteem Scale (RSE; Rosenberg, 1965). The researchers conducted a multiple

regression analysis to examine the relationship between the independent variable of High

Standards and Discrepancy on the APS-R, and the dependent variables of GPA and achievement

motivation. Other analyses looked at the relationship between High Standards and Discrepancy as

the independent variables and self-esteem and depression as the dependent variables. The results

showed that High Standards and Discrepancy were significant predictors of GPA, self-esteem,

and depression. Specifically, High Standard scores predicted an increase in GPA, and

Discrepancy scores were negatively associated with GPA. In addition, as the High Standards

score increased depression scores decreased, and as Discrepancy scores increased depression

scores increased. Furthermore, as High Standards scores increased self-esteem scores decreased

and as Discrepancy scores increased so did self-esteem scores. Low scores on the self-esteem

scale used represent higher self-esteem. The findings from this study suggest that the High

Standards subscale represents the adaptive components of perfectionism while Discrepancy

represents the negative aspects of perfectionism.

Grzegorek, Slaney, Franze, and Rice (2004) conducted a cluster analysis using the APS-R scores on a sample of 273 undergraduate students. Three clusters were found and the participants were identified as adaptive perfectionists (AP), maladaptive perfectionists (MP) and non-perfectionists (NP) based on their APS-R scores. A MANOVA was conducted to see if there were significant differences between the clusters on the variables of self-esteem (RSE; Rosenberg, 1965), dependency and self-critical depression (DEQ; Blatt et al., 1976), APS-R subscales (Slaney et al., 1996), GPA, and GPA satisfaction. A post hoc Tukey B test revealed that the MP cluster had the highest Discrepancy scores from the APS-R followed by the NP and then the AP clusters. The AP and MP clusters had significantly higher scores on the High Standards and Order subscales of the APS-R than the NP cluster. The AP cluster had the highest self-esteem scores compared to the MP and NP clusters, which showed no significant differences. The MP cluster scored the highest on self-critical depression followed by the NP then the AP cluster. There were no significant differences between the clusters on dependency. There were no significant differences between the AP and MP clusters on GPA, though the MP cluster was found to have lower satisfaction with GPA than the AP cluster. The findings from this study lend support to using APS-R scores to identify perfectionist and non-perfectionist groups, and as a measure of adaptive and maladaptive perfectionism.

Other studies utilizing perfectionism scales other than the APS-R have supported the view that perfectionism has positive as well as negative components (Bieling, Israeli, & Antony, 2004; Norman, Davies, Nicholson, Cortese, & Malla, 1998). Though a good amount of attention has been placed on researching the validity and reliability of the APS-R and its relationship to adaptive and maladaptive measures, more research needs to focus on the validity of the APS-R with other cultural groups. The following will discuss the cross cultural studies that have been published using the Almost Perfect Scale-Revised (Slaney, Mobley, Trippi, Ashby, & Johnson, 1996).

Cross-Cultural Research utilizing the APS-R

Dana (2005) asserted that the assessment community has wrongly assumed that tests are genuine "etics" or universal in their application when in fact they are by-products of a specific culture or Euro-American reality, and reflect this culture's rules for test development and application. According to Dana (2005), assuming that a test is an "etic" and ignoring its cross cultural equivalence can lead to the inadequate selection and use of a test on a multicultural client resulting in faulty test scoring and incorrect interpretations. A remedy to this type of test bias is to demonstrate cross-cultural equivalence in the language and constructs used in a test, and in metric/scalar comparisons between groups (Dana, 2005).

For Latino test takers, it is important to assess the language proficiency of the test taker since the test may not be in his or her first language (Dana, 2005). For a Latino test taker, Spanish may be his or her first language and the preferred language to use while taking tests. Linguistic equivalence of tests can be achieved by the translation and/or the back translation of an assessment into a targeted language allowing the test taker to complete the test in the language they are most comfortable using (Moreland, 1996). Dana (2005) argued that compared to linguistic equivalence assessors have given less attention to construct and metric equivalence demonstrations. Moreland (1996) pointed out that while deciding whether a test is appropriate for individuals from diverse racial and ethnic backgrounds, assessors must determine whether the test's construct has the same conceptual relevance or meaning cross-culturally. Conceptual equivalence could be achieved by expert judgment or by establishing the construct validity of an instrument by performing a statistical procedure such as factor analysis (Moreland, 1996). Furthermore, assessors have asked if a test has norms reflecting cross-cultural samples but have inquired less about the test's metric properties when utilized with these samples (Moreland, 1996). Researchers such as Dana (2205) have argued that scores on a scale should have similar

score distributions and ranges of scores cross culturally whereas others (Clark, 1987) have noted that metric equivalence does not require equal means as long as the relations within and among variables remain constant.

Another problem in multicultural assessment has been to assume that a study's cross-cultural sample is homogenous which has led to psychometric inadequacies and the minimization of within group differences (Dana, 2005; Moreland, 1996). For example, Latinos represent a variety of countries, language idioms, values and cultural practices, and these variations which may account for differences in research findings would be obscured if they were not noted.

There is little research examining the relevance of the construct of perfectionism for various racial and ethnic groups. Most of the studies conducted on perfectionism have focused on White undergraduates and have largely neglected other racial and ethnic groups (Flett, Greene, & Hewitt, 2004; Mobley et al. 2005). Given the lack of research on perfectionism as a construct among cross-cultural groups, there are limits to generalizing the findings attained from a mainly Caucasian sample to cross-cultural groups.

The perfectionism measure that has been used most frequently to sample diverse ethnic groups has been the Almost Perfect Scale-Revised. Thus far the APS-R has been utilized with African-American, Asian Indian, Chinese, Korean, Turkish, and Croatian samples. In this segment of the dissertation, I will summarize the results of published studies.

Mobley, Slaney, and Rice (2005) investigated the construct validity of the APS-R scale among African American undergraduate students. Mobley et al. hypothesized (2005) that the factor structure of the APS-R for this sample would be consistent with that of European Americans. A confirmatory factor analysis (CFA) utilizing a LISREL program yielded support for the three-factor structure of the APS-R in this African American sample. The two groups compared were European American and African American students. The researchers hypothesized that there would be equivalence in the number of underlying factors, in the pattern

of factor loadings, and the structural relations among the facets of the construct between these two groups. The results revealed that though the three-factor structure seemed to operate in the same manner between the two cultural groups there were some differences in how these constructs interrelated with one another. Among the European American group, the subscale Discrepancy of the APS-R (which is associated with the negative aspects of perfectionism) correlated with the subscales High Standards ($r = .10$) and Order ($r = .07$), and High Standards correlated with Order ($r = .54$). These findings differ slightly from previous studies utilizing Caucasian groups which found negative or nonsignificant associations between High Standards and Discrepancy (Slaney et al., 2001; Suddarth & Slaney, 2001). In the African American group, High Standards correlated with Order ($r = .40$), and Discrepancy correlated with Order ($r =-.21$) and there was a negative correlation between Discrepancy and High Standards ($r = -.23$).

The results of this study also supported previous researchers which have asserted that Discrepancy is a negative form of perfectionism. Discrepancy was negatively correlated with self-esteem ($r = -.55$, $p < .0001$), and positively correlated with depression ($r = .26$, $p < .01$) and trait anxiety ($r = .58$, $p < .0001$). A cluster analysis was used to identify groups of perfectionists and a MANOVA revealed that maladaptive perfectionists reported significantly higher levels of trait anxiety and depression compared to adaptive perfectionists but not non-perfectionists. Adaptive perfectionists scored significantly higher on self-esteem, and significantly lower on trait anxiety and depression than non-perfectionists. Maladaptive perfectionists reported significantly lower levels of self-esteem than adaptive perfectionists.

Gilman, Ashby, Sverko, Florell, and Varjas (2005) used the APS-R to examine the relationship between perfectionism and life satisfaction among American and Croatian adolescent participants. These authors administered the Multidimensional Students' Life Satisfaction Scale (MSLSS: Huebner, 1994) and the APS-R to 341 American and 291 Croatian high school students. The MSLSS assesses satisfaction on the following domains: Family, Friends, School,

Living Environment, Self, and Global. Gilman et al. (2005) were interested in learning how the High Standards and Discrepancy subscales of the APS-R would interact with the MSLSS domains. A multiple regression analysis revealed that High Standards was a positive predictor of school satisfaction for the American and Croatian groups. However, High Standards was a positive predictor of family satisfaction and self-satisfaction for the American group but not the Croatian group. Discrepancy was a negative predictor of self-satisfaction and global satisfaction for the Croatian sample while it was a negative predictor of self-satisfaction for the American group. These results suggest that for these high school students having high standards may have contributed to school satisfaction, and specifically for the Americans students it also impacted their family and self-satisfaction.

A cluster analysis of the results found three groups: adaptive perfectionists, maladaptive perfectionists, and non-perfectionists. F tests were conducted to find significant differences between the groups on the MSLSS domains. For both the Croatian and the American groups adaptive perfectionists reported greater mean satisfaction scores on all MSLSS domains (Family, Friends, School, Living Environment, Self, and Global) compared to maladaptive perfectionists and non-perfectionists. A Tukey pairwise comparison revealed that for the Croatian group there were statistically significant differences on the Global, Family, School and Self domains between the adaptive perfectionists and maladaptive perfectionists while there were no differences on these domains between the maladaptive perfectionists and non-perfectionists. The American adaptive perfectionists reported significantly higher levels of satisfaction on all the MSLSS domains than the maladaptive perfectionists and non-perfectionists. Unlike the Croatian group, American maladaptive perfectionists revealed higher satisfaction in the areas of Family, School, and Living Environment compared to the non-perfectionists. Gilman et al. (2005) suggest that having high standards was related to perceived life quality for the American maladaptive perfectionists even though they experienced cognitive discord for not meeting their standards.

Methikalam, Wang, and Slaney (2007) used the APS-R and the Sex-Role

Egalitarianism Scale (SRES; King & King, 1990) to examine the differences related to

perfectionism and sex role attitudes between Asian Indian men and women studying in India and

Asian Indians studying in the U.S. The participants at the University of Delhi were one hundred

and eighty-nine volunteers from psychology classes. One hundred and nineteen Asian Indians

were recruited from a Mid-Atlantic university in the U.S. The investigators conducted a

confirmatory factor analysis, and found an adequate model fit utilizing the APS-R scores with

these two Asian Indian samples. The items of the APS-R loaded appropriately onto the three

factors: High Standards, Order, and Discrepancy. In the U.S. sample, the subscales of the APS-R

correlated: .00 (Discrepancy and High Standards), -.11 (Discrepancy and Order), and .49 (High

Standards and Order). The Delhi sample differed in that the factors Discrepancy and High

Standards correlated .39. The other correlations were .43 (High Standards and Order), and .10

(Discrepancy and Order). A MANOVA was conducted and revealed that students from Delhi had

higher Discrepancy scores than the students in the U.S. There were no gender differences on the

APS-R scores. The men and women from the U. S. had higher SRES scores than their

counterparts in Delhi ($F = 29.33$, $p < .001$) indicating more liberal sex role attitudes. Women's

SRES scores were higher than the scores for men ($F = 29.64$, $p < .001$). A cluster analysis was

used to identify the following clusters based on scores of the APS-R: non-perfectionist,

maladaptive, and adaptive perfectionists. More men than women from Delhi fell in the

maladaptive perfectionist groups. For the Delhi men, adaptive perfectionists had more liberal sex

role attitudes than maladaptive perfectionists. Further research is needed to explore whether

cultural variables can explain why the Delhi group had higher Discrepancy scores than the U.S.

group. Future investigations are also needed to examine whether assimilation to Western culture

explains the positive correlation found between the High Standards and Discrepancy factors for

the Asian Indians in Delhi and not the Asian Indians in the U.S. Previous studies utilizing mainly

Caucasian groups have found negative or nonsignificant correlations between High Standards and Discrepancy (Slaney et al, 2001; Suddarth & Slaney, 2001). Like Methikalam, et al. (2007) Wang reported positive correlations in these factors utilizing samples from Hong Kong (Wang, Yuen, & Slaney, 2009) and Taiwan (Wang, Slaney, & Rice, 2007).

Wang, Slaney, and Rice (2007) examined perfectionism among 273 Taiwanese students. Wang et al. (2007) studied the relationship between perfectionism and depression, anxiety, self-esteem and achievement motivation. A confirmatory factor analysis of the APS-R scale items was conducted to assess the construct validity of the APS-R. The study also included a cluster analysis based on APS-R scores to identify clusters of perfectionists and non-perfectionists. Due to low internal consistency, standardized scores of the Order scale were not used. A multivariate analysis of variance was conducted to assess the differences on the variables of depression, anxiety, self-esteem, and achievement motivation among the clusters of perfectionists.

The confirmatory factor analysis results provided support for the construct validity of the APS-R with Taiwanese students. The CFA indicated an acceptable fit of the data to the model (X^2 (225, N=273) =861.78, $p < .001$, CFI =.95, SRMR =.099, RMSEA = .073 (90% Confidence Interval .065 - .80). The three factors, High Standards, Discrepancy and Order loaded on the CFA model. High Standards was significantly and positively correlated with Discrepancy ($r = .37$) and Order ($r = .41$). Similar to studies by Methikalam et al. (2007) and Wang, Yuen, and Slaney (2009) where positive associations were found between Discrepancy and High Standards when studying Asian Indians and participants from Hong Kong. These results were not found in Slaney et al.'s (2001) study which used a Caucasian sample to assess the APS-R. In addition, High Standards was significantly and positively correlated to both Individual-Oriented Achievement Motivation (IOAM) ($r = .62$) and Social-Oriented Achievement Motivation (SOAM) ($r = .36$), as measured by the Social-Oriented and Individual-Oriented Achievement

Motivation Scale (Yu & Yang, 1987). The Order subscale was significantly and positively correlated with IOAM scores ($r = .38$). The Discrepancy subscale was significantly and positively correlated with anxiety ($r = .31$) and depression ($r = .48$), and negatively correlated with self-esteem ($r = -.50$). The Discrepancy scale was significantly and positively correlated with SOAM ($r = .32$) but not with IOAM ($r = .06$). Self-esteem was significantly and positively correlated with IOAM ($r = .31$) but not SOAM ($r = .19$).

The cluster analysis indicated there were four clusters: adaptive perfectionists (high on High Standards and low on Discrepancy scales), maladaptive perfectionists (high on both High Standards and Discrepancy scales), non-perfectionists (low on High Standards and low on Discrepancy scales), and a fourth group that had low High Standards and Discrepancy scores. The scores of the fourth group on Discrepancy were lower than the maladaptive perfectionist group but higher than the adaptive and non-perfectionists group. Univariate ANOVAs revealed that adaptive perfectionists had significantly higher self-esteem than the other three groups, and scored lower on state anxiety than the other three groups. Maladaptive perfectionists had significantly higher trait anxiety and depression compared to the other three groups. Adaptive and maladaptive perfectionists reported higher IOAM scores than the non-perfectionists and the fourth group. The fourth group along with adaptive and maladaptive perfectionists scored higher on SOAM. Wang and his associates suggested that a possible explanation for these results might be that individuals from collectivistic societies such as Taiwan may be more motivated to meet expectations based on external sources such as the family rather than internal ones.

Wang, Yuen, and Slaney (2009) conducted a study to assess the factor structure of the APS-R with 509 high school students from Hong Kong. These researchers also wanted to investigate how many clusters of perfectionists they would find in this sample. Another goal of this study was to compare the differences between clusters on the variables of depression, loneliness, and life satisfaction. The study's fourth goal was to examine Discrepancy levels on the

APS-R. Discrepancy as it is conceptualized in the APS-R captures an individual's distress as a result of her or his perceived failure to meet their expectations (Slaney et al, 1996). Wang et al. (2009) pointed out there are similarities between Discrepancy and shaming which focuses on the discrepancies between the individual's behavior and the parent's expectation of their child's behavior. Hence, these researchers hypothesized there would be higher Discrepancy levels among this sample of students from Hong Kong compared to previous ethnic samples from the U.S. which could be related to an increased use of shaming in the Chinese culture.

An exploratory factor analysis (EFA) and a confirmatory factor analysis (CFA) provided support for the factor structure of the APS-R with this sample. The principle-axis analysis of the EFA indicated a three-factor solution. Nineteen of the 23 items were retained (Factor 1 had 9 items and was labeled Discrepancy, Factor 2 had 7 items and was labeled High Standards, and Factor 3 was labeled Order and had three items). A Bartlett's test of sphericity was 2372.32, $p < .001$, and the Kaiser-Meyer-Olkin measure of sampling adequacy was .86, suggesting the use of the data for an EFA was appropriate. The CFA supported a three-factor structure with 9 items loading on the Discrepancy subscale, 7 on the High Standards and 3 on the Order subscales. Though the SRMR did not support the model, overall the statistics indicated an adequate model fit (X^2 (149, N=233) = 730.04, $p < .001$, CFI=.93, SRMR=.12, RMSEA=.09 (90% Confidence Interval .08 - .10) for the data. Cronbach's coefficient alphas for the subscales ranged from .53 to .88 for high Standards, .53 to .82 for Discrepancy, and .67 to .77 for Order.

As expected, Discrepancy and Order were negatively correlated (-.16) and High Standards and Order had a strong correlation (.48). However, Discrepancy and High Standards had a significant positive correlation (.24) unlike previous studies using the APS-R (Mobley et al., 2005; Slaney et al., 2001). These results are similar to Wang et al.'s findings (2007) where High Standards and Discrepancy were also positively associated among a Taiwanese population. The authors of the study speculated that the positive relationship between High Standards and

Discrepancy could be related to a mediating variable specific to this ethnic group or that

Discrepancy may be viewed as less negative in this culture. In this study, Order and not High

Standards was positively associated with the adaptive variable, satisfaction with life for female (r

= .28) and male students (r = .23) (Satisfaction with Life Scale; SWLS; Pavot & Diener, 1993).

These results differ from previous studies that found High Standards as having stronger

associations with the adaptive variables of self-esteem and GPA (Grzegorek et al., 2004; Slaney

et al., 2001) compared to Order. Wang et al. (2009) pointed to the possibility that Order is a more

positive variable in Hong Kong compared to the U.S. In addition, Discrepancy was positively

correlated to depression for female (r = .40) and male students (r = .49).

Scores on the APS-R were used in a cluster analysis to identify and label type of

perfectionists. Adaptive perfectionists scored high on High Standards and Order, and low on

Discrepancy scales, maladaptive perfectionists scored high on the High Standards, Order, and

Discrepancy subscales, and non-perfectionists scored low on the High Standards, Order, and

Discrepancy subscales. These results differed from Wang et al.'s (2007) study which found four

clusters of perfectionists and non-perfectionists among Taiwanese participants but were similar to

previous studies (Grzegorek et al., 2004; Rice & Slaney, 2002; Slaney et al., 2001) where three

clusters were identified. A MANOVA was conducted to identify differences between the three

clusters on the variables of depression, satisfaction with life, and loneliness as measured by the

CESD (Radloff, 1977), the SWLS (Pavot & Diener, 1993), and the UCLA Loneliness Scale-

Version 3 (Russell & Cutrona, 1988) respectively. The results indicated that adaptive

perfectionists had significantly greater satisfaction with life and lower depression than the other

two groups. Maladaptive perfectionists and non-perfectionists were not significantly different on

scores on loneliness, satisfaction with life, and depression. According to the researchers of this

study, there is a possibility that, "discrepancy is ingrained in the culture to the point that non-

perfectionists even though they do not have high standards still have relatively high Discrepancy

scores" (p. 22). They also suggested that perfectionism might be viewed less negatively in this culture. Discrepancy levels were higher with this population compared to previous studies in the U.S. (Grzegorek et al., 2004; Rice & Slaney, 2002; Slaney et al., 2001). Wang and his colleagues suggest this could be related to the increased use of shaming in this culture.

The findings from the above studies (Gilman et al., 2005; Methikalam et al., 2007; Mobley et al., 2001; Wang et al., 2007; Wang et al., 2009) generally support the cross cultural validity of the APS-R. The factor structure of the APS-R was similar for the African American, Asian Indian, Croatian, Chinese, and Taiwanese groups studied when compared to the Caucasian groups previously studied. There were however, differences with the correlations between the subscales of the APS-R compared to studies mainly utilizing Caucasian groups. Wang et al, (2007), Wang et al, (2009), and Methikalam (2007) reported a positive correlation between High Standards and Discrepancy. Discrepancy levels were also higher for the participants from Taiwan and Hong Kong compared to previous studies using Caucasian participants. In the Methikalam et al. (2007) study Asian Indians from Delhi had higher Discrepancy scores than the Asian Indians from the U.S. These findings suggest that there may be differences in the construct of perfectionism among cross cultural groups. Future studies are needed to replicate and extend the cross cultural studies that exist on perfectionism, and attention should be directed to the populations that have not been studied thus far. To date there have been no published studies testing the construct validity of the APS-R with Latinos. Similarly, the relationship between adaptive and maladaptive perfectionists and non-perfectionists and positive and negative psychological constructs has not been studied among Latinos.

Perfectionism and Depression and Anxiety

In the last decade, more attention has been placed on the relationship between maladaptive perfectionism and psychological problems. There is a growing amount of research which points to the positive relationship between maladaptive perfectionism and negative psychological functioning, such as depression and anxiety. One way researchers have studied this relationship is by using cluster analyses to identify groups of perfectionists (adaptive and maladaptive) and non-perfectionists, and compare these groups on the variables of depression and anxiety.

Rice and Slaney (2002) conducted a two part study that investigated emotional adjustment and academic achievement on clusters of perfectionists. In the first study a cluster analysis was conducted using the APS-R (Slaney et al., 1996) scores of two-hundred and fifty-eight undergraduates, and revealed three clusters of perfectionists which were labeled as adaptive perfectionists, maladaptive perfectionists, and non-perfectionists. Adaptive and maladaptive perfectionists were not different on their High Standards and Order scores, but maladaptive perfectionists had the highest Discrepancy scores. Non-perfectionists scored lower on the subscales High Standards and Order, and their scores on Discrepancy were midpoint between the other two groups of perfectionists. Rice et al. (2002) examined the differences between clusters of perfectionists on measures of self-esteem, depression, anxiety, positive and negative affect and GPA. The maladaptive perfectionists had statistically significant higher scores on depressed affect (CES-D; Radloff, 1977), somatic and vegetative activity (CES-D; Radloff, 1977), and state and trait anxiety (State-Trait Anxiety Inventory; Spielberger, Gorsuch, & Lushene, 1970) than the other two groups. This group also had the lowest scores on self-esteem (Rosenberg Self-Esteem Inventory; Rosenberg, 1965) in contrast to the adaptive perfectionists who had significantly higher self-esteem and affect scores than the two other groups. Adaptive perfectionists and non-

perfectionists endorsed comparable scores on the measures of depressed affect and somatic symptoms. The non-perfectionist group reported significant higher scores on anxiety than the adaptive perfectionist group. There were no significant differences between groups based on GPA.

The second part of Rice and Slaney's (2002) study sought to replicate the results from the cluster analysis of the above study on a sample of 375 undergraduate students. Consistent with the first study, the cluster analysis indicated three groups that were labeled adaptive perfectionists, maladaptive perfectionists, and non-perfectionists. The results showed a similar pattern in the findings except there was no difference on the measure of anxiety between the non-perfectionist group and the adaptive perfectionist group like in the first study. Adaptive perfectionists had significantly higher self-esteem, positive affect, and GPA than the other two groups. The maladaptive group had significantly higher negative affect than the adaptive group though there was no statistical difference on this measure between the perfectionists and non-perfectionists. These findings are similar to those of Grzegorek and her associates (2004) who found a significant positive relationship between maladaptive perfectionism and levels of self-critical depression. Grzegorek et al. (2004) also found that adaptive perfectionists scored higher on self-esteem. Similarly, Suddarth and Slaney (2001) reported that maladaptive perfectionism was positively related to the severity of symptoms on the Brief Symptom Inventory (Derogatis & Spencer, 1982).

In a study investigating the relationship between adaptive and maladaptive perfectionism and psychological functioning using Frost et al.'s Multidimensional Perfectionism Scale (FMPS) (1990), a stress mediation model between Black and White female college students was tested (Chang, Banks, & Watkins, 2004). In Chang et al.'s (2004) study, negative psychological functioning was defined by negative affect, including psychological maladjustment such as depression and anxiety, and positive psychological functioning by positive affect and life

satisfaction. Pointing out that women attempt suicide three times as often as men, and noting the

link between suicide potential and perfectionism, these authors argued it was important to study

the role of suicide and perfectionism. Based on Frost et al.'s (1993) previous method of

distinguishing between perfectionists, adaptive perfectionism was distinguished by adding scores

from the Personal Standards and Organization scales, whereas maladaptive perfectionism was

obtained from scores from the Concern Over Mistakes, Parental Expectations, Parental Criticism,

and Doubts About Actions subscales of the FMPS (Frost et al., 1990). One-hundred and fifty

Black females and 150 White females were administered the MPS (Frost et al., 1990), the

Perceived Stress Scale (PSS; Cohen, Kamarck, & Mermelstein, 1983), the Positive and Negative

Affect Schedule (PANAS; Watson et al., 1988), the Satisfaction with Life Scale (Diener,

Emmons, Larsen, & Griffin, 1985), and the Adult Suicide Ideation Questionnaire (ASIQ;

Reynolds, 1991a). After conducting a MANOVA, significant differences were found between the

Black and White participants on the above measures $\Lambda(7, 292) = .85$, $p < .001$). Univariate

analyses showed that Black women reported greater stress and negative affect, and White women

reported greater adaptive perfectionism and life satisfaction. Adaptive perfectionism was related

to less suicide ideation for Black women, and for White women adaptive perfectionism was

positively associated with greater positive affect and life satisfaction. Furthermore, maladaptive

perfectionism was associated with less life satisfaction in White women. For both groups

maladaptive perfectionism was associated with less positive affect, greater stress, and suicide

ideation. For Black women the relationship between maladaptive perfectionism and both positive

and negative affect became nonsignificant when these variables were completely mediated by

stress. For White women, stress only partially mediated maladaptive perfectionism and life

satisfaction, as well as maladaptive perfectionism and negative affect. Stress also completely

mediated maladaptive perfectionism and suicidal ideation for Blacks and partially for White

women. These results differed from those of Chang's (2000) earlier study which did not find

stress to fully mediate perfectionism, and psychological functioning. Chang's (2000) earlier

results might have differed given the study did not differentiate between adaptive and

maladaptive perfectionism. The findings from Chang et al.'s (2004) study add to our knowledge

base regarding the relationship between maladaptive perfectionism and negative psychological

functioning, and highlight the role stress plays in influencing psychological states via maladaptive

perfectionism and vice-versa.

Norman, Davies, Nicholson, Cortese, and Malla (1998) investigated the relationship

between the adaptive and maladaptive components of perfectionism and psychological symptoms

in a sample of 123 psychiatric patients in Ontario, Canada. These authors measured the

maladaptive components of perfectionism by examining the dimension of maladaptive evaluative

concerns (MEC) and its positive aspects by looking at positive striving (POS). MEC was

composed of subscales from Frost et al.'s (1990) perfectionism scale and Hewitt and colleagues'

perfectionism scale (1991): Concern Over Mistakes, Parental Criticism, Parental Expectations,

Doubts About Actions, and Socially Prescribed Perfectionism. Similarly, POS also included the

subscales of Personal Standards and Organization from Frost et al.'s MPS and Hewitt et al.'s

Self- and Other Oriented subscales. These dimensions were correlated with scores on the

Maudsley Obsessive-Compulsive Inventory (Hodgson & Rachman, 1977) and the Padua

Inventory (Sanavio, 1988), to measure OCD related symptoms. To assess anxiety related

symptoms and depression the respondents completed the Beck Anxiety Inventory (BAI) (Beck,

Epstein, Brown & Steer, 1988) and the Hamilton Anxiety Rating Scale (Riskind, Beck, Brown &

Steer, 1987) as well as, the Beck Depression Inventory (BDI) (Beck & Steer, 1987) and the

Hamilton Rating Scale for Depression (Revised) by Riskind et.al (1987). The results showed a

significant difference between the MEC and the POS indexes in their correlations on the BAI and

BDI ($Z = 5.22$, $p < .001$, $Z = 4.68$, $p < .001$, respectively). There was no statistically significant

difference between MEC and POS in relation to the Hamilton Rating Scale for Depression-

Revised. The results showed no significant differences between MEC and POS on the depression and anxiety rating scales compared to the self-report measures. These authors assert that it is not unusual to find differences between rating and other self-report measures testing the same construct. They referred to researchers who have speculated as to the methodological reasons that this may occur, such as halo effects when taking either instrument (Lambert, Hatch, Kingston, Edwards, 1986) or the differences between what the measures are assessing (behavioral/somatic symptoms for the rating scales vs. the subjective experience from self-report measures (Boyle, 1985). They also suggested that in this study of perfectionism, which emphasizes cognitive and subjective concepts, perhaps perfectionism is best captured by self-report measures of anxiety and depression.

Bieling, Israeli, and Antony (2004) tested the fit of three models on the subscales of two perfectionism scales. In the first model, the Multidimensional Perfectionism Scales by Hewitt and Flett (1991) and Frost et al. (1990) were treated as separate measures. The second model reflected the construct of perfectionism from both the HMPS and the FMPS. The third model reflected two factors: the Maladaptive Evaluative Concerns and Positive Striving. The researchers believed that this was one way to learn more about the number of constructs in perfectionism. One-hundred and ninety eight undergraduate students were administered the FMPS and the HMPS. To the test the convergent validity of perfectionism the Depression, Anxiety, and Stress Scale (DASS-21; Lovibond & Lovibond, 1995), and the Test Anxiety Scale (TAS; Sarason, 1984) were also used. A confirmatory factor analysis was conducted to compare the three models, and a number of goodness-of-fit indices and measures of parsimony for each solution were compared. The best fit to the data came from the third model, corresponding to the two factor structure of Positive Striving (POS) and Maladaptive Evaluative Concerns (MEC). Furthermore, HMPS and FMPS were united to form the two measures of Maladaptive Evaluative Concerns and Positive Striving. Whereas both MEC and POS were correlated to the measures of psychopathology (DASS and

TAS), only MEC significantly predicted depression, anxiety, stress, and test taking anxiety with betas ranging from .32 to .46. MEC explained 20% of the variance in depression, 16% of the variance in stress, 11% of the variance in anxiety, and 17% of the variance in test anxiety. These authors highlighted the fact that POS was not negatively correlated with psychological distress accentuating the possibility that the factor is neutral. Lastly, in response to the question about whether the dimensions of perfectionism (adaptive and maladaptive) were independent or correlated with one another, the results showed that MEC and POS were positively correlated ($r =$ 0.45) indicating that these factors of perfectionism are not separate from each other. This study adds support to the view that perfectionism as a construct has positive as well as negative components to it though these components are substantially correlated.

A limitation in this study is that the findings of the study can not be generalized to samples outside of college students given the possibility that the structure of perfectionism may differ in clinical samples. The authors pointed out that the sample size only allowed for the model to be tested one time rather than several times among multiple samples. In addition, since this study had a cross sectional design, the longitudinal relationship between the dimensions of perfectionism could not be observed.

Sherry, Hewitt, Flett, and Harvey (2003) studied the relationship between perfectionistic attitudes (PA), dysfunctional attitudes (DA) and depression. Sherry et al (2003) derived their conceptualization of PA and DA from Beck and his colleagues (Brown & Beck, 2002), and described PA as a cognitive process involving harsh self-criticism and self-evaluation, and dysfunctional attitudes as a combination of dependent attitudes and perfectionistic attitudes. Sherry et al. (2003) argued that PA was not only a unitary cognitive process involving the self but that it involved interpersonal dynamics. They hypothesized that PA would have a stronger relationship with the Socially Prescribed Perfectionism (SPP) scale from the HMPS (Hewitt & Flett, 1991b), which measures perfectionism on an interpersonal level compared to the Self-

Oriented Perfectionism Scale (SOP) (Hewitt & Flett, 1991b), which measures perfectionist

attitudes imposed by the self. Sherry et al. (2003) also expected that DA would have a strong

relationship with the SPP scale. Sherry and his associates (2003) tested Beck and his colleague's

(Brown & Beck, 2002) cognitive vulnerability hypothesis that asserts that PA and depression are

moderated by an individual's unmet needs in the achievement sphere, and that DA and depression

are moderated by an individual's unmet needs in the interpersonal sphere. Sherry et al. (2003)

tested whether SPP and SOP would interact with the moderators, achievement hassles,

interpersonal hassles and perceived coping difficulties, to predict depression. They predicted SPP

and interpersonal hassles, and SOP and achievement hassles would interact to predict depression.

The study had two samples and was composed of 70 in- and outpatients receiving psychiatric care

in a hospital and 280 university students from Canada. The respondents completed the

Dysfunctional Attitude Scale-Form A (DAS; Weissman, 1979; Weissman & Beck, 1978), the

HMPS (Hewitt & Flett, 1991b), the Beck Depression Inventory (BDI; Beck, Steer & Garbin,

1988), the Perceived Coping Difficulties Scale (PCDS; Hewitt, Flett, Mosher, 1992) and the

Hassles Scale (HS; DeLongis, Folkman, & Lazarus, 1988). As hypothesized, PA had a stronger

association with SPP compared to SOP in both samples. DA was significantly correlated with

SPP in both samples. These findings are consistent with previous studies that have found the SPP

subscale of the HMPS to be related to maladaptive psychological functioning. PA was

significantly correlated with SOP in the psychiatric sample, and with the female university

student sample but not with the male university students. OOP had a weak correlation with PA in

the university sample but not with the psychiatric group.

There were inconsistent findings with regards to Beck and his colleague's (Brown &

Beck, 2002) cognitive vulnerability hypothesis. Achievement hassles moderated PA and

depression for the females but not for the male college students. Interpersonal hassles moderated

the relationship between DA and depression for the males only. The results testing Sherry et al.'s

(2003) last hypothesis were also inconsistent and showed that SPP interacted with achievement and interpersonal hassles to predict depression for the female university students only. As SPP and the level of achievement and interpersonal hassles increased so did depression levels. The interaction between SOP and achievement hassles did not predict depression though its interaction with perceived coping difficulties predicted depression for the female students.

This section of the dissertation provides a summary of the above studies investigating the relationship between perfectionism, and depression and anxiety. Advances in the research on perfectionism include the ability to recognize there are adaptive and maladaptive components of perfectionism, and the development of a variety of methods to measure these components. For example, the APS-R assesses not only the maladaptive components of perfectionism with the Discrepancy subscale but also its adaptive components with its Order and High Standards subscales. Cluster analysis has also proven to be a useful statistical method in the identification of perfectionism groups. Several studies using cluster analysis suggest that maladaptive perfectionism is strongly correlated with depression and anxiety (Rice & Slaney, 2002; Grzegorek et al., 2004), and other negative psychological variables such as suicidal ideation (Chang et al., 2004). Other studies have combined subscales from the FMPS and the HMPS to form POS and MEC indexes reflecting positive and maladaptive components of perfectionism. Norman et al. (1998) reported significant differences between MEC and POS on self-report measures of depression and anxiety, with MEC showing a stronger correlation to these variables. Bieling et al. (2004) found MEC and POS were substantially correlated though only MEC was a predictor of depression and anxiety. Regardless of the research method used, a clear pattern has emerged pointing out the positive relationship between maladaptive perfectionism, and depression and anxiety. A clinical implication of this research entails the need to assess and treat the maladaptive aspects of a client's perfectionism, while fostering his or her adaptive perfectionism. Furthermore, more studies investigating the relationship between maladaptive

perfectionism and negative psychological variables need to be conducted using cross-cultural samples**.**

Perfectionism and Self-Esteem

An important contribution in the study of perfectionism has been identifying its adaptive as well as maladaptive components. The APS-R (Slaney et al., 1996) has been instrumental in this research given its ability to measure adaptive components of perfectionism, such as an individual's high standards and need for order, and the maladaptive components or the perceived discrepancy between his or her standards and the achievement of these standards. Having high standards has been associated with positive psychological variables, such as self-esteem. For example, by utilizing the APS-R (Slaney et al., 1996) Accordino et al. (2000) found that the subscale High Standards was a significant positive predictor of Self-Esteem, whereas the Discrepancy subscale predicted low levels of Self-Esteem as measured by the RSE (Rosenberg, 1965). Slaney et al. (2001) found that in two samples of the same study High Standards scores were positively correlated with Self-Esteem scores ($r = .15$ and $r = .19$) from the Rosenberg Self-Esteem Inventory (1965) while the reverse was true for Discrepancy scores ($r =$ -.35 and $r = -$.44) as measured by the APS-R (Slaney, et al., 1996). Mobley et al. (2005) reported Self-Esteem scores from the SEI (Rosenberg, 1965) had a positive relationship with APS-R (Slaney et al., 1996) High Standard scores ($r = .35$), and a negative association with APS-R (Slaney et al., 1996) Discrepancy scores ($r = -.55$) in a sample of African-American students (n=251). In a sample of Taiwanese students (n=273), Wang et al. (2007) did not find a significant correlation between High Standard scores from the APS-R (Slaney et al., 1996) and Self-Esteem scores ($r = .10$) as measured by the SEI (Rosenberg, 1965). However, Wang et al. (2007) reported that High Standard scores were not correlated with the negative variables anxiety and depression, whereas

Discrepancy scores from the APS-R (Slaney et al., 1996) ($r = -.50$) were. Utilizing a structural

equations analysis, Ashby and Rice (2002) found that the APS-R (Slaney et al., 1996) High

Standards subscale was a significant and positive predictor of self-esteem as measured by the

Rosenberg Self-Esteem Inventory (1965) (n= 262). Ashby and Rice (2002) also conducted an

exploratory factor analysis which revealed that the Order subscale from the APS-R (Slaney et al.,

1996) did not load on the same factor as High Standards, and was not related to self-esteem. The

positive correlation between APS-R High Standards (Slaney et al., 1996) and self-esteem ($r =$

.28) in Ashby and Rice's (2002) study provides support for the view that perfectionism has

adaptive components.

By conducting cluster analyses researchers have been able to distinguish between

adaptive perfectionists and maladaptive perfectionists. Using the APS-R (Slaney et al., 1996)

scores adaptive perfectionists are categorized by elevated High Standard scores and low

Discrepancy scores, maladaptive perfectionists by high Discrepancy and High Standard scores,

and non-perfectionists by low High Standard and Discrepancy scores. Contributing to the

evidence that suggests perfectionism has positive aspects are studies that point out that adaptive

perfectionists have higher self-esteem than non-perfectionists and maladaptive perfectionists.

Grzegorek et al. (2004) reported that adaptive perfectionists, which were categorized by APS-R

scores (Slaney et al., 1996), had the highest levels of self-esteem whereas there were no

significant differences between non-perfectionists and maladaptive perfectionists. Utilizing APS-

R scores to conduct cluster analyses, Rice et al. (2002), Mobley et al. (2005), and Wang et al.

(2007) found that adaptive perfectionists reported the highest self-esteem compared to non-

perfectionists and maladaptive perfectionists.

The above findings on the relationship between adaptive perfectionism and self-

esteem seem consistent with Hamachek's (1978) conceptualization of perfectionism as neurotic

(maladaptive) or normal (adaptive). Hamachek (1978) suggested that the self-esteem of neurotic

perfectionists suffers because they set goals for themselves that are unreachable, while normal

perfectionists more easily attain their reasonable expectations which consequently influence

positive feelings towards themselves. Rice, Ashby, and Slaney (1998) questioned whether the

path from perfectionism to depression was indirect and inferred a model from Hamachek's (1978)

work that placed self-esteem in a mediational role between perfectionism and depression. Rice et

al. (1998) tested the above mediational model through structural equations modeling, and

conducted a CFA to test the factor structure of previous investigations studying adaptive and

maladaptive perfectionism and depression and self-esteem (n= 464). The Maladaptive

Perfectionism Factor consisted of the subscales Concern Over Mistakes, Parental Criticism,

Parental Expectations, and Doubts About Actions from the FMPS (Frost et al., 1990), and the

subscales Anxiety, Difficulty in Relationships, and Procrastination from the APS (Slaney &

Johnson, 1992). The Adaptive Perfectionism Factor included the Standards and Order subscales

from the APS (Slaney & Johnson, 1992), and the Organization and Personal Standards subscales

from the FMPS (Frost et al., 1990). The Self-Esteem Factor included the two subscales from the

RSE (Rosenberg, 1965), and the Depression Factor included the two subscales form the BDI

(Beck, 1978). The CFA provided support for the adequacy of the four-factor model. Rice et al.

(1998) found that adaptive perfectionism played a nonsignificant role in self-esteem and

depression, while maladaptive self-esteem was associated with low self-esteem and depression.

The findings from exploratory analyses revealed that self-esteem and maladaptive perfectionism

accounted for significant variance in depression $R^2 = .31$, $F(2,461) = 101.62$, $p < .001$. Results

from regression equations revealed that low levels of maladaptive perfectionism resulted in low

levels of depression regardless of self-esteem and at high levels of maladaptive perfectionism,

depression is influenced by low self-esteem or suppressed by high self-esteem. These findings are

interesting in that they imply self-esteem can serve as a buffer of maladaptive perfectionism. A

clinical implication for counselors is to help maladaptive perfectionist clients foster their self-esteem to buffer against the deleterious effects of depression.

In this segment, I have reviewed several studies that have studied perfectionism and its relationship to self-esteem. As this area of research continues to proliferate, it is becoming evident that there is a lack of research examining the relationship between perfectionism and its relationship to the negative and positive psychological functioning of Latinos. Another aim of this study will be to examine the latter relationship along with the role played by a culturally relevant variable for Latinos, that of the family.

Familism and the Almost Perfect Family Scale (APS-F; Methikalam, Slaney, & Wang, 2005)

The literature related to Latinos has suggested that the family plays a central role in the lives of this ethnic group, and has referred to this concept as familism, or familismo (Sabogal, Marin, Otero-Sabogal, Marin, & Perez-Stable, 1987). Smart and Smart (1995) asserted that Hispanic immigrants are different from European immigrants in that they place a special emphasis on social and family ties. These authors suggested that Latinos share a collectivistic culture, and this is reflected in familismo, which includes having a deep sense of loyalty and obligation towards the family, and using the family (including extended family) as a problem-solving unit. Researchers have stressed that for Latinos the family is central because it is perceived as an important provider of social support (Gil et al., 1996; Sabogal et al., 1987). Furthermore, familism has been described as having a protective mechanism against negative environmental influences that lead to maladaptive behaviors, such as alcohol abuse (Gil & Vega, 2000). In the next segment, I will review several studies related to familismo among Latinos.

Coohey (2001) compared levels of familism among Latina (n=70) and Caucasian mothers (n=102), and investigated the role familism played in child maltreatment. Coohey's

study (2001) found that for both groups of mothers, a higher level of familism was associated with less child maltreatment. The findings of the study revealed that Latinas felt they had more kin that were warm and caring (F (1, 172) = 4.07; $p < .05$), and received more emotional support than the Caucasian group (F (1, 172) = 3.86; $p < .05$). In addition, though they had less kin living nearby (F (1, 172) = 8.91; $p < .0001$) it did not affect the amount of emotional support they received. In general, the Latinas reported a higher level of familistic attitudes compared to the Caucasian sample which lends support to the premise that familismo is central to this ethnic group.

Other researchers have acknowledged that familismo is a cultural norm among Latinos and have investigated the role of acculturation on the familismo of Latinos. Sabogal et al. (1987) investigated whether acculturation affects the familismo of Mexicans, Cubans, and Central Americans. Using a familism measurement, these researchers found that there were three factors of familism that were relevant in the sample tested. These factors were family obligations, perceived support from the family, and using family as referents, which are individuals you turn to for information or things. Sabogal et al. (1987) found that even the most acculturated Latinos in this study had higher levels of familismo, specifically perceived support from the family, $M = 3.65$, (F (1, 341) = 18.05; $p < .001$, and using family as referents, than the Caucasian comparison group, $M = 2.82$, (F (1, 340) = 24.40; $p < .001$. However, there were no differences between Hispanics and White non-Hispanics on the family obligations factor. Moreover, these researchers also reported that the beliefs related to the perceived importance of family obligations and using family as referents decreased with acculturation. Acculturation did not impact the Latino participants' levels of perceived family support, attesting to the importance of family social support for Latinos.

One hypothesis tested by Gil and Vega (1996) was that familism and family cohesion would increase with acculturation in a sample of Cubans and Nicaraguans. In this study familism

was related to the loyalty and sense of obligation directed towards the family, as well as the

valuing of communication with the family. The results of the study supported the hypothesis.

These researchers found that familism increased with acculturation. However, family cohesion

decreased with higher acculturation. Gil et al. (1996) suggested that though cohesiveness was

compromised, familism was not because the attitudes reflect the need of the family as a support

network during acculturation. For immigrants who migrate close to family members the family

can become the only resource for instrumental (e.g. housing) and emotional support (Gil et al.

1996). Gil's results differed from those of Alvarez's (2007) study which found a negative

correlation ($r = .13$, $p < .05$) between acculturation and familism among Mexican parents.

Specifically, the more acculturated the parents were the less familism they subscribed to. Though

the above studies differ in their findings about the influence acculturation has on familism, the

implications are that at least some aspects of familism are valued in the Latino culture.

A reason why familismo may be a cultural norm for Latinos may relate to the typical

immigrant and minority experience of confronting a variety of psychosocial stressors (low SES,

racism, acculturation difficulties, undocumented status, language barriers, etc.). It would then

seem adaptive to utilize the family as a source of social support in light of the above stressors. In

addition, the importance placed on the family can stem from the cultural values some Latinos

retain after migrating from countries that greatly value family unity.

In Latino culture, the family's needs may be considered as important if not more

important than that of the individuals. Based on this premise, it can be argued that Latinos may

place a greater value and try to meet their family's expectations over their own. This relates to

perfectionism in that perfectionism may manifest itself differently among Latinos, with Latinos

placing a greater emphasis on the standards and expectations set by the family over their own.

There is evidence to suggest that compared to Caucasians, Latinos may place a higher value on

the values and expectations others impose on them (Aguila, 2002). Aguila (2002) compared the

differences in the relationship between socially prescribed and self-oriented perfectionism and depressed mood among Caucasian (n=62) and Mexican American college students (n=31). Socially prescribed perfectionism was defined as the perfectionist's perception that others evaluate them harshly, exert pressure on them to be perfect, and have excessively high standards for them (Hewitt & Flett, 1991b). A goal in Aguila's (2002) experimental study was to test the stress vulnerability hypothesis related to perfectionism. That is, the researcher wanted to test Hewitt and Flett's (1993) premise that for self-oriented perfectionists, stressors or disruptions in the attainment of self-related achievements increases depression. Easy and unsolvable analogies were incorporated as the "stressors" in the study. A hierarchical regression analysis revealed a trend that among the Caucasian sample an interaction between level of self oriented perfectionism and task difficulty was an individual predictor of depressed mood scores $t= 1.916$, $p = .06$, and accounted for unique variance in depression, F change $(1,58) = 3.672$, $p = .06$, which explained 5.5% of the variance in depression scores. There was no interaction found between self-oriented perfectionism, task difficulty, and depression scores for the Mexican American sample but there was one for socially prescribed perfectionism, task difficulty, and depression. The author suggested that an emphasis on collectivism and familism in the Latino culture could help explain why socially prescribed perfectionism was more relevant than self-oriented perfectionism for the Mexican Americans in the study. The results indicated that the interaction between ethnicity (Mexican American and Caucasian) and socially prescribed perfectionism predicted depression scores, ($t =2.942$, $p < .01$) but did not account for unique variance in depression scores ($R^2 = .019$, $p = .17$). For the Caucasian group, depressed mood increased with task difficulty for the high and low socially prescribed perfectionists. In the Latino group, depression scores increased with task difficulty for the low socially prescribed perfectionists and decreased with task difficulty among the highest socially prescribed perfectionists. To help explain the decrease in depression scores among high socially prescribed perfectionists, Aguila (2002) referred to pre-survey and post-

survey answers which showed that the Mexican American participants were less invested in the study's task. According to the researcher, this could have been due to the task not being interpersonal in nature but focused more on individual achievements. Aguila (2002) also found that the highest level of depressed mood was experienced by Mexican Americans with the highest level of socially prescribed perfectionism. If the Latinos in Aguila's (2002) study with the highest level of socially prescribed perfectionism were most susceptible to depression one may raise the question if Latinos are more vulnerable to the negative aspects of perfectionism derived from other socially oriented influences, specifically that of the family. A similar question, and one addressed in this study is whether family maladaptive perfectionism has stronger ties to negative psychological variables such as depression and anxiety than individual maladaptive perfectionism among Latinos.

The Almost Perfect Scale-Family (APS-F; Methikalam, Slaney, & Wang, 2005) is a newly devised instrument that measures family perfectionism, specifically, an individual's perceptions of the adaptive and maladaptive perfectionistic beliefs and attitudes conveyed by his or her family. Wang and his associates (2009) argued that Chinese culture stresses the importance of the family over the individual (Ho & Chiu, 1994). Highlighting the importance of the collective over the individual, one of Wang's (2007) hypothesis was that family maladaptive perfectionism as measured by the Almost Perfect Scale-Family (APS-F; Methikalam, Slaney, & Wang, 2005) was a stronger predictor for Depression and Self-Esteem as measured by the CES-D (Radloff, 1977) and the SEI (Rosenberg, 1965) for Asian-Americans compared to Caucasian-Americans, and that Personal Discrepancy was a weaker predictor of Depression and Self-Esteem for Asian-Americans compared to Caucasian-Americans. The results of the study did not support this hypothesis. However, Wang (2007) did find that both Personal (AA: $r = .56$; CA: $r = .47$) and Family Discrepancy (AA: $r = .38$; CA: $r = .41$) were significantly and positively correlated with

Depression adding support to the premise that family maladaptive perfectionism is correlated to negative psychological functioning.

Wang (2007) examined the construct validity of the APS-F with an Asian-American and a Caucasian group. The findings from this study showed that the APS-F had a similar factor structure to the APS-R, and items loaded on the High Standards, Order, and Discrepancy factors. For the Asian-American sample in his study, structure coefficients ranged from .62 to .95 for High Standards, .75 to .87 for Order and .70 to .91 for Discrepancy, and for the Caucasian group High Standards ranged from .59 to .92, .77 to .84 for Order and .72 to .93 for Discrepancy. These structure coefficients provide support for the convergent validity of the scale. The fit statistics for the Asian American group were: X^2 (227, N = 252) = 1096.40, $p < .001$, CFI=.97, SRMR=.08, RMSEA=.08 (90% Confidence Interval .08 - .09) and the Caucasian group were: X^2 (227, N = 386) = 1078.48, $p < .001$, CFI=.98, SRMR=.09, RMSEA=.06 (90% Confidence Interval .05 - .07). The fit statistics generally supported the models for the Asian-American and Caucasian groups, except for the standardized root-mean-square residual (SRMR) in the Caucasian group and the root-mean-square error of approximation (RMSEA) in the multi-group CFA. Though more research is needed, these findings suggest that the measure has appropriate psychometric properties in the assessment of perceived family perfectionism.

With the increased recognition of familism as a cultural norm among Latinos, it seems productive to explore the construct validity of the Almost Perfect Scale-Family (APS-F) with Latinos. This study seeks to add to the lack of research related to family perfectionism among Latinos. One goal of this study will be to examine the construct validity of the APS-F utilizing a Latino college student sample, and explore the relationship between perceived family perfectionism and adaptive and maladaptive psychological variables. This study will investigate whether there is a relationship between family maladaptive perfectionism and depression and anxiety, and whether higher levels of family adaptive perfectionism are correlated with increased

levels of self-esteem among Latinos. Finally, based on the concept that Latinos may place greater

value on their family's expectations over their own it is hypothesized that they may be more

influenced by family over individual perfectionism. Along these lines, it is speculated that family

maladaptive perfectionism may have a stronger relationship with depression and anxiety than

individual maladaptive perfectionism.

Summary and Hypotheses

This study will be the first of its kind to examine the factor structure of two

perfectionism scales, the APS-R and the APS-F, utilizing a Latino sample. In keeping with the

methodology of categorizing perfectionists, this study will conduct a cluster analysis based on

APS-R scores, and assess the relationship between perfectionism clusters and mental health

functioning, specifically depression, anxiety, and self-esteem. Consistent with previous findings,

it is expected that three clusters will be identified, maladaptive perfectionists (MP), adaptive

perfectionists (AP), and non-perfectionists (NP). There have been no studies investigating the

latter relationship with a Latino sample. Consistent with previous findings that found a positive

correlation between maladaptive perfectionism and depression and anxiety (Bieling, et al., 2003;

Chang et al., 2004; Grzegorek et al., 2004; Rice et al., 2002; Suddarth et al., 2001), as well as

Discrepancy scores and levels of depression and anxiety (Accordino et al., 2000; Mobley et al.,

2005; Slaney et al., 2001; Wang et al., 2007) a hypothesis tested in this study will be that

maladaptive perfectionists will have higher scores on measures of depression and anxiety

compared to adaptive perfectionists and non-perfectionists. Similarly, AP will be hypothesized to

report higher levels of self-esteem compared to MP and NP consistent with previous findings that

have found this relationship (Rice et al., 2002).

This study seeks to explore the construct of family perfectionism among Latinos. This study will utilize the APS-F (Methikalam et al., 2005), which is based on items from the APS-R, and measures an individual's perceptions of the perfectionistic beliefs and attitudes conveyed by his or her family. A cluster analysis will be performed on APS-F scores, and it is expected that three family perfectionism clusters will emerge: maladaptive perfectionists family, adaptive perfectionists family, and non-perfectionists family. It is also hypothesized that like previous cluster analyses with APS-R scores, there will be similar relationships between the three clusters, and psychological functioning. Specifically, it is hypothesized that maladaptive perfectionists family will report significantly higher scores on the measures of depression and anxiety compared to adaptive perfectionists family and non-perfectionists family. Another hypothesis tested in this study is that adaptive perfectionists family will report significantly higher levels of self-esteem than maladaptive perfectionists family and non-perfectionists family.

Due to the strong cultural influence of familismo, Latinos may place a greater value and try to meet their family's expectations over their own. If this is the case, Latinos may be more susceptible to the effects of family perfectionism over individual perfectionism. Based on this speculation, it is hypothesized that family maladaptive perfectionism will have a stronger relationship with depression and anxiety than individual maladaptive perfectionism, and depression and anxiety. Family maladaptive perfectionism will be measured by Family Discrepancy scores from the APS-F, and individual maladaptive perfectionism will be assessed by Discrepancy scores from the APS-R. In addition, if the relationships between family perfectionism and the psychological variables are significant in expected directions this will also add support to the construct validity of the APS-F.

Research in the area of individual and family perfectionism can possibly help us understand the nuances of perfectionism as it relates to Latinos, and can inform clinical practice

in working with Latino perfectionists. To summarize, the following hypotheses will be tested in this study:

1. A confirmatory factor analysis of the APS-R with Latino participants will replicate past findings with majority participants.

2. An exploratory factor analysis will examine the factor structure of the APS-F with Latino participants.

3. Family Discrepancy will be more strongly related to depression and anxiety than Individual Discrepancy.

4. A cluster analysis based on APS-R scores will reveal three clusters: adaptive perfectionists, maladaptive perfectionists, and non-perfectionists.

5. Maladaptive perfectionists, as identified by APS-R scores, will report significantly higher levels of depression and anxiety than adaptive perfectionists and non-perfectionists.

6. Adaptive perfectionists, as identified by APS-R scores, will report significantly higher levels of self-esteem than maladaptive perfectionists and non-perfectionists.

7. A cluster analysis based on APS-F scores will reveal three clusters: adaptive perfectionists family, maladaptive perfectionists family, and non-perfectionists family.

8. Maladaptive perfectionists family, as identified by APS-F scores, will report significantly higher levels of depression and anxiety than adaptive perfectionists family and non-perfectionists family.

9. Adaptive perfectionists family, as identified by APS-F scores, will report significantly higher levels of self-esteem than maladaptive perfectionists family and non-perfectionists family.

Chapter 3

METHOD

Participants

Two hundred and seven undergraduate college students of Latin American (Caribbean, South American, and Central American) descent participated in the study. The participants had to self-identify as being Latino/a, and 18 years of age or older in order to participate in the study. The demographic questionnaire asked the participants to identify their country of origin, generation status, as well as residency status in this country. Participants identified as being from the following Latin American locations: Puerto Rico (n = 40), Dominican Republic (n = 32), Colombia (n = 19), Mexico (n = 15), Cuba (n = 12), Ecuador (n = 12), Peru (n = 13), Argentina (n = 1), Paraguay (n = 1), Uruguay (n = 3), Guatemala (n = 3), Nicaragua (n = 2), El Salvador (n = 3), Honduras (n = 5), Panama (n = 3), and a combination of two Latin American locations (n = 24). Fourteen participants identified as being multiracial, 2 participants endorsed "Other", and 3 did not answer the question related to their country of origin. Univariate ANOVAs were conducted to determine significant differences between participants on the study's dependent variables and individual and family perfectionism, based on country of origin and Latin American region membership (ex. Caribbean, South American, Central American, and Mexican). There were no significant differences found based on the participants' country of origin or Latin American region membership. The results revealed that the majority of the participants were second generation Latinos (n=110), followed by first (n=64) then third generation (n=28) Latinos. Five respondents did not report their generational status. There were no significant differences on any of the dependent variables due to generational status. Eighty-

eight percent of the respondents were U.S. citizens (n=182), whereas twelve percent were U.S. residents (n=23). Two participants did not report their residency status.

Twenty-four percent of the sample was male (n=49) and seventy-six percent was female (n=157). One student did not indicate his or her gender. Independent samples t-tests determined there were no significant differences on the study's dependent variables of depression, anxiety, self-esteem, individual and family perfectionism as a function of gender.

The mean age of the participants was 21.13 years of age. The sample was mostly represented by Juniors (28%) in college, followed by Seniors (21%), and then Sophomores (21%). Eighty-two percent of the participants (n=170) were recruited from Latin American Studies, Psychology, Spanish, Sociology, and Communications courses, as well as, Latin American student organizations from two campuses (New Brunswick and Newark) at Rutgers University in New Jersey. A smaller percentage (18%) of the students (n=37) were recruited from undergraduate classes within the Sociology, Spanish, and Latin American Studies departments at The Pennsylvania State University. The respondents did not show significant differences on the scores of the study's dependent variables due to the location of data gathering according to independent samples t-tests. Lastly, the respondent return rate of surveys for The Pennsylvania State University was 70%, and 56% for Rutgers University.

Measures

Demographic Information Sheet

The participants were asked to provide the following information: age, class status (ex. first year, sophomore, etc.), gender, residency status, generation status (first-third generation) in this country, and ethnicity.

Almost Perfect Scale-Revised (APS-R; Slaney, Mobley, Trippi, Ashby, & Johnson, 1996)

The Almost Perfect Scale-Revised (Slaney et al., 1996) consists of 23 items, divided into three subscales named High Standards (7 items), Order (4 items), and Discrepancy (12 items). The High Standards subscale mirrors the expectations an individual sets for his or her performance. Order reflects an individual's need for organization and neatness, whereas Discrepancy captures the distress an individual experiences related to her or his perceived success of meeting his or her high standards. Sample items are, "My performance rarely measures up to my standards" and "I have high expectations for myself". The items are scored on a 7-point Likert-type scale with 1 being strongly disagree and 7 indicating strongly agree. Exploratory and confirmatory factor analyses provided support for the factor structure of the APS-R (Slaney, Rice, Mobley, Trippi, & Ashby, 2001). A CFA revealed high internal consistency for three factors with Cronbach's coefficient alphas of .85 for Standards, .82 for Order, and .91 for Discrepancy (Slaney et al., 2001). Other studies have provided support for the factor structure of the APS-R (Mobley et al., 2005; Rice et al., 1998; Suddarth et al., 2001). Factor intercorrelations in Slaney et al.'s study (2001) were moderate, High Standards and Order .47, or negligible, High Standards and Discrepancy -.13, and Order and Discrepancy -.19. The APS-R subscales have been correlated with other measures of perfectionism displaying good convergent validity (Slaney et. al., 2001; Suddarth et al., 2001). Test-retest correlations over a 3 week period were adequate (.72 for Standards, .83 for Discrepancy, and .80 for Order) (Grzegorek et. al., 2004).

Almost Perfect Scale Family (APS-F; Methikalam, Slaney, & Wang, 2005)

The APS-F (Methikalam, Slaney, & Wang, 2005) was developed to assess an individual's perceptions of the beliefs and attitudes related to perfectionism conveyed to them by

his or her family. The scale originally had 39 items which was later reduced to 23 items after confirmatory factor analyses. The items on the APS-R were modified to form the APS-F, which like the APS-R also has three subscales: High Standards, Order, and Discrepancy. The items are rated on a 7 point Likert scale, with 1 meaning you strongly disagree with the item and 7 being you strongly agree. Some sample items are, "My family has standards for my performance at work or at school", "My family expects me to be an orderly person", and "My family is hardly ever satisfied with my performance". In a U. S. college sample of 184 students, Cronbach's alpha reliability coefficients for the subscales were .85, .82, and .95 for High Standards, Order, and Discrepancy, respectively (Methikalam, Slaney, & Wang, 2005). Wang (2007) investigated the factor structure of the APS-F utilizing an Asian American and a Caucasian sample. The findings from this study showed that the APS-F had similar factor loadings on confirmatory factory analyses than the APS-R. Items loaded on the High Standards, Order, and Discrepancy factors and the structure coefficients for the factors ranged from .62 to .95 for High Standards, .77 to .84 for Order and .70 to .91 for Discrepancy. Factor intercorrelations were as follows for the Asian American sample: High Standards correlated with Order by .68, and with Discrepancy by .24. Discrepancy and Order were correlated by .33. For the Caucasian American sample the intercorrelations were: .48 (High Standards and Order), .08 (High Standards and Discrepancy), and .17 for (Order and Discrepancy). For the Asian American group, the fit statistics were: X^2 (227, N=252) = 1096.40, p < .001, CFI = .97, SRMR = .08, RMSEA = .08 (90% Confidence Interval .08 - .09). The fit statistics for the Caucasian group were: X^2 (227, N=386) =1078.48, p < .001, CFI = .98, SRMR = .09, RMSEA = .06 (90% Confidence Interval .05 - .07). The findings generally supported the factor structure of the APS-F, except for the SRMR in the Caucasian group. A multi-group CFA revealed the following indeces: X^2 (454, N=638) = 2174.88, p < .001, CFI = .93, RMSEA = .11 (90% Confidence Interval .10 - .11), indicating that the CFI but not the

RMSEA supported the model. Individual group CFAs supported the APS-F item-to-factor specifications.

Center for Epidemiological Studies-Depression Scale (CES-D; Radloff, 1977)

The CES-D (Radloff, 1977) consists of 20 items used to measure symptoms of depression, including depressed mood, feelings of guilt and worthlessness, helplessness and hopelessness, psychomotor retardation, loss of appetite, and sleep disturbance. The items are rated on a 4-point Likert scale according to the frequency of occurrence of the item during the week, with zero reflecting (rarely, that is less than one day) and three reflecting (most or all of the time, 5-7 days). Coefficient alphas reliabilities have ranged from .89 to .90 (Breslau, 1985; Radloff, 1977). Radloff (1977) initially reported a four factor structure: Depressed Affect, Positive Affect, Somatic Symptoms and Retarded Activity, and Interpersonal Relations. Sheehan, Fifield, Reisine, Tennen (1995) compared the fit of four measurement structures for the CES-D, including a one factor structure, three factor structure, four factor structure, and a second-order factor underlying the four factor structure on a sample of 813 rheumatoid arthritis patients which were administered the scale once every three years in order to cross-validate the models over time. The results indicated that the four factor structure was superior to the one factor structure and the three factor structure and comparable to the second-order factor underlying the four factor structure (Sheehan et al., 1995). Sheehan et al.'s (1995) cross-validation analyses revealed that across each time point the four factors were present and invariant, and the correlations between the four factors were invariant. Providing support to the validity of the CES-D is its significant positive relationship with APS-R Discrepancy scores, which indicates maladaptive perfectionism. Studies by Rice and Ashby (2007) and Rice and Slaney (2003) revealed maladaptive

perfectionists reported statistically higher depression scores as measured by the CES-D, than

adaptive perfectionists and non-perfectionists.

The Rosenberg Self-Esteem Inventory (SEI; Rosenberg, 1965)

The SEI is a widely used 10 item scale developed to assess a general sense of self-

worth. Participants respond to items on a 4-point Likert scale (1=strongly disagree to 4= strongly

agree) with higher scores indicating higher self-esteem. Internal consistency reliability estimates

have ranged from .86 to .93 (Goldsmith, 1986). Crandall (1973) reported a test-retest reliability

estimate of .85 over a two week time period. Rosenberg (1965) and Goldsmith (1986) reported

that SEI scores have correlated with other measures in expected directions. SEI scores have been

negatively correlated with depression scores (Rice, Ashby, Slaney, 1998), and scores from

Weissman and Beck's (1978) Self-Criticism Perfectionism subscale of the Dysfunctional

Attitudes Scale (Ashby & Rice, 2002). The RSE has been widely used with Latino samples of

varying age groups as indicated by a meta-analysis conducted by Twenge and Crocker's (2002)

that compared self-esteem levels among Whites, Blacks, Latinos, Asians, and American Indians.

In a study that assessed the predictors of college adjustment among Latino college students

(n=190), the RSE was used to assess self-esteem, and the scale's Cronbach's alpha coefficient

was .87, showing a high degree of consistency (Yazedjian & Toews, 2006).

State-Trait Anxiety Inventory-Form Y-1 (STAI; Spielberger, Gorsuch, & Lushene, 1970; Spielberger, 1983)

The STAI was originally developed by Spielberger, Gorsuch, and Lushene (1970).

The STAI-Form Y, which was developed in 1983, is the latest version of the scale, and is said to

have improved psychometric properties compared to the original scale (Oei, Evans, & Crook, 1990). Form Y-1 of the STAI scale has 20 items that assesses present levels of tension. Sample items are "I feel nervous'', "I am tense", and "I am worried". The STAI-Form Y-1 has twenty items and participants are asked to rate the items by endorsing 1-4 (1= not at all and 4=very much so). Spielberger (1983) reported median alpha coefficients of .93 for the State scale. Test-retest reliability coefficients for the State scale ranged from .16 to .62 (Spielberger, 1983). Concurrent validity of the STAI Form Y ranged from .73 to .85 with other anxiety measures (Spielberger, 1983). Novy, Nelson, Goodwin, and Rowzee (1993) compared the psychometric properties of the STAI-Form Y, (Speilberger, 1983) across White, Black, and Latino pain patients (n=300). Novy et al. (1993) reported no significant differences between standardized coefficient alphas across the White, Black, and Latino subjects. Construct validity was supported when the State and Trait scales were correlated with the Minnesota Multiphasic Personality Inventory's (MMPI; Hathaway, & McKinley, 1982) depression and Psychasthenia scales, the total scores on the Beck Depression Inventory (BDI; Beck & Steer, 1987), the Beck Hopelessness Scale (BHS; Beck & Steer, 1988), and the Psychosocial Pain Inventory (PSPI; Heaton, Lehman, & Getto, 1980).

Procedure

The participants were administered a packet that included two informed consent letters, the demographic information sheet, and the following research instruments: the Almost Perfect Scale-Revised (Slaney, Mobley, Trippi, Ashby, & Johnson, 1996), the Almost Perfect Scale Family (Methikalam, Slaney, & Wang, 2005), the Center for Epidemiological Studies-Depression Scale (Radloff, 1977), the Rosenberg Self-Esteem Inventory (Rosenberg, 1965), and the State-Trait Anxiety Inventory-Form Y (STAI; Spielberger, Gorsuch, & Lushene, 1970; Spielberger, 1983). The participants were given the option of completing the surveys after class

or mailing it to the researcher. They were also informed that they should return one signed

consent form to the researcher, and keep one form for their records. As an incentive for

participation, students were informed that they would be entered into a lottery where they could

win two $100 dollar prizes. They were also given the researcher's contact information for

purposes of debriefing regarding the study.

Analyses

A confirmatory factor analysis of the APS-R items was conducted to examine the

factor structure of the scale. The correlations between the APS-R subscales, and the dependent

variables of depression, anxiety, and self-esteem were determined. Intercorrelations between the

APS-R subscales were assessed. A cluster analysis was performed on the APS-R and the APS-F

to identify groups of adaptive and maladaptive perfectionists and non-perfectionists. Ward's

linkage method to conduct a hierarchical cluster analysis was used. Multivariate analyses of

variance (MANOVAs) between clusters using the variables of anxiety, depression, and self-

esteem were utilized.

An exploratory factor analysis was performed to identify the factor structure of the

APS-F. Using Pearson correlation analyses the relationships between subscale scores of the APS-

R, the APS-F and the dependent variables of depression, anxiety, and self-esteem were assessed.

Chapter 4

Results

Confirmatory Factor Analysis of the APS-R

A confirmatory factor analysis (CFA) was conducted to test the hypothesized three

factor structure of the APS-R with a Latino college student sample. Maximum likelihood method

was the extraction method used. Oblimin, an oblique rotation technique, was utilized because of

the expectation that the factors would correlate with one another. Adequacy of model fit was

informed by chi-square test, comparative fit index (CFI), and root-mean-square-error (RMSEA).

A chi-square test calculates the differences between expected and observed variance-covariance

matrices, and a non-significant test indicates no difference between the matrices. The chi square

value, however, can be sensitive to sample size (Marsh, Balla, & McDonald, 1988) which may

lead to the erroneous interpretation of results, so other fit tests were performed. The CFI is an

index that compares the theoretical model with a null model. The RMSEA is related to the

residual in the model. Some generally acceptable guidelines for fit indices are that CFI values be

greater than .90 as this reveals an acceptable fit of the data to the model, and that RMSEA values

be .05 and below to indicate a close fit or .05 to .08 to reveal a fair fit (Kline, 2005). Results

indicated that the chi-square test was significant, the CFI value indicated an acceptable fit, and

the RMSEA value indicated a fair fit for the data. The fit statistics were as follows: X^2 (227,

N=207) = 407.79, $p < .001$; CFI = .92; and RMSEA = .062 (90% Confidence Interval .05 -.07).

On the basis of previous analyses, the CFA constrained 12 items on the Discrepancy

factor, 7 items on the High Standards factor and 4 items on the Order factor. A scree plot added

support to a three factor solution. The final solution converged in five iterations. To load on a

factor, structure coefficients had to be above .45, and below .35 on other factors. Only item

number five, "If you don't expect much out of yourself, you will never succeed", had a factor

loading lower than the criterion of .45 (its factor loading was .21). The other structure coefficients

ranged from .52 to .85. Comrey and Lee (1992) suggest that loadings above .45 are fair, .55 are

good, .63 very good, and .71 excellent. In the decision making process of whether to keep item

number five for the rest of the analyses, the Cronbach's alpha coefficient of the item's subscale,

High Standards, was examined to assess coefficient changes if the item was removed. The

subscale's Cronbach's alpha coefficient changed from .805 to .836 after deleting the item.

Despite this increase, given that the subscale's internal consistency was high when retaining the

item, and because part of the study's goal was to examine the performance of a scale that has

been widely used, the decision was made to keep the item for the rest of the analyses. The

Cronbach's alpha reliability coefficients for the other subscales, Order and Discrepancy were:

.849 and .913, respectively, suggesting the subscales had good internal consistency.

        Table 1 displays all of the factor loadings of the CFA using the APS-R, and the factor

correlations. Structure coefficients ranged from .52 to .82 for the first factor (Discrepancy), .21 to

.81 for the second factor (High Standards), and .67 to .85 for the third factor (Order). Factors

were allowed to correlate with one another. The factor correlations were as follows: -.05

(Discrepancy and High Standards), -.13 (Discrepancy and Order), and .31 (Order and High

Standards). The low to moderate correlations among the factors suggest that they are largely

independent of one another. Overall, the findings largely support the hypothesized three factor

structure of the APS-R with this Latino sample.

Table 1.

Confirmatory Factor Analysis of the Almost Perfect Scale-Revised: Structure Coefficients (N=207)

Item Number	Factor 1	Factor 2	Factor 3
Discrepancy Subscale			
3. I often feel frustrated because I can't meet my goals.	**.57**	.01	.02
6. My best just never seems to be good enough for me.	**.80**	.00	.05
9. I rarely live up to my high standards.	**.63**	-.20	.00
11. Doing my best never seems to be enough.	**.79**	.06	-.03
13. I am never satisfied with my accomplishments.	**.68**	.13	-.03
15. I often worry about not measuring up to my own expectations.	**.52**	.19	-.07
16. My performance rarely measures up to my standards.	**.75**	-.16	-.03
17. I am not satisfied even when I know I have done my best.	**.66**	.07	.00
19. I am seldom able to meet my own high standards of performance.	**.64**	.01	.04
20. I am hardly ever satisfied with my performance.	**.82**	-.06	.04
21. I hardly ever feel that what I've done is good enough.	**.70**	-.09	.07
23. I often feel disappointment after completing a task because I know I could have done better.	**.65**	-.02	-.06
High Standards Subscale			
1. I have high standards for my performance at work or at school.	.00	**.65**	.08
5. If you don't expect much out of yourself, you will never succeed.	-.06	**.21**	.12
8. I have high expectations for myself.	.01	**.79**	.11
12. I set very high standards for myself.	.17	**.81**	-.09
14. I expect the best from myself.	-.03	**.54**	.00
18. I try to do my best at everything I do.	-.10	**.52**	-.03
22. I have a strong need to strive for excellence.	.08	**.81**	.01
Order Subscale			
2. I am an orderly person.	-.09	.11	**.67**
4. Neatness is important to me.	.04	.00	**.85**
7. I think things should be put away in their place.	.05	-.11	**.74**
10. I like to always be organized and disciplined.	.01	.11	**.77**

Exploratory Factor Analysis of the APS-F

An exploratory factor analysis was performed on the 39 item APS-F scale. The Maximum Likelihood extraction method was employed. Oblimin was used as a rotation technique based on the expectation that the factors would probably correlate with each another. Two tests, the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and the Bartlett's Test of sphericity, were used to determine the factorability of the intercorrelation matrix. KMO is an index of the degree to which variables are measuring a common factor, and values of .6 and above are required for a good factor analysis (Tabachnick & Fidell, 2001). The KMO test index was .915 indicating that the items shared common factors enough to warrant a factor analysis. Bartlett's Test of sphericity tests the hypothesis that the correlations in a correlation matrix are zero (Tabachnick & Fidell, 2001). The result for this analysis was significant at 3459.42, $p <$ .001, which indicated that the correlation matrix was not an identity matrix. The final solution converged in six iterations.

Three factors were expected to be revealed based on previous findings and because APS-F items were based on the APS-R which has 3 factors (Wang, 2007). A scree plot was examined, and supported a three factor solution. The three factor solution resulted in 17 items on the Discrepancy factor, 9 items on the High Standards factor and 4 items on the Order factor. The steps taken for item reduction included retaining items that had factor loadings equal to or greater than .40 on one factor and less than .35 on any other factor. A cutoff criterion of .45 yielded more items that cross loaded on several factors compared to the .40 criterion. Table 2 lists all the structure coefficients resulting from the exploratory factor analysis of the APS-F. Cronbach's alpha coefficients were: .929, .842, and .804, for Discrepancy, High Standards, and Order,

respectively, showing the subscales had good internal consistency. Table 2 displays all of the factor loadings of the CFA using the APS-F, and the factor correlations. Structure coefficients ranged from .45 to .89 for the first factor, .41 to .81 for the second factor, and .60 to .77 for the third factor. Factor correlations were: .31 (Discrepancy and High Standards), .26 (Discrepancy and Order), and .38 (High Standards and Order).

Table 2.

Exploratory Factor Analysis of the Almost Perfect Scale-Family: Structure Coefficients

Item Number	Factor 1	Factor 2	Factor 3
Discrepancy (N=205)			
2. My family believes that if I can't be the best, I should not even try.	**.45**	.06	.07
5. I often feel frustrated because I can't meet the goals my family has for me.	**.52**	.30	.01
8. My best just never seems to be good enough for my family.	**.82**	.10	.03
12. I rarely live up to my family's high standards.	**.79**	.03	.08
15. Doing my best never seems to be enough for my family.	**.89**	.11	.12
18. Nothing short of perfect is acceptable in my family.	**.51**	.33	.06
19. My family is never satisfied with my accomplishments.	**.79**	.02	.02
23. My performance rarely measures up to my family's standards.	**.76**	.04	.05
24. I can generally meet the standards my family sets for me.	**.55**	.27	.05
25. My family is not satisfied even when they know I have done my best.	**.65**	.15	.04
27. I am seldom able to meet my family's high standards of performance.	**.45**	.04	.14
29. My family is hardly ever satisfied with my performance.	**.89**	.01	.05
31. My family is hardly ever satisfied with my performance.	**.74**	.11	.12
35. My family is hardly ever satisfied with my performance.	**.51**	.17	.04
36. My family usually feels pretty satisfied with what I do.	**.62**	.08	.07
38. My family usually feels like what I have done is good enough.	**.67**	.17	.10
39. My family often feels disappointment after I complete a task because they know I could have done better.	**.54**	.12	.01
High Standards (N=207)			
1. My family has high standards for my performance at work or at school.	.03	**.79**	.03
10. My family has high expectations for me.	.06	**.81**	.05

16. It bothers my family when I am distracted when I have work to do.	.22	**.41**	.14
17. My family sets very high standards for me.	.06	**.78**	.05
21. My family expects the best from me.	.02	**.57**	.22
22. I often worry about not measuring up to my family's expectations.	.24	**.41**	.02
26. My family expects me to try to do my best at everything I do.	.02	**.41**	.19
30. My family can get pretty upset when I don't do as well as they think I should.	.34	**.48**	.07
37. My family expects me to have a strong need to strive for excellence.	.01	**.54**	.07
Order (N=207)			
4. My family expects me to be an orderly person.	.03	.25	**.60**
6. Neatness is important to my family.	.04	.02	**.77**
9. My family thinks things should be put away in their place.	.04	.06	**.63**
13. My family expects me to always be organized and disciplined.	.10	.25	**.61**

Associations between APS-R and APS-F and other study variables

The correlations between APS-R and APS-F subscales, as well as the relationships between these scales and the study's dependent variables, were examined and are shown in Table 3. Concerning the magnitude of correlation coefficients, Cohen (1988) suggests that coefficients of .10 reflect small effect sizes, .30 medium effect sizes, and coefficients of .50 reflect large effects sizes. In this study, the correlations between individual perfectionism and the study's dependent variables reflected small to large effect sizes, while the magnitude of the associations between family perfectionism and the study's dependent variables reflected small to medium effect sizes. The correlations between the APS-R and the APS-F Discrepancy subscales, and the study's dependent variables showed the strongest associations with medium to large effect sizes (r = .31 to .55).

To briefly summarize the correlations, Individual High Standards was negatively associated with depression and anxiety, and had a significant and positive relationship with self-esteem. Individual Order was not significantly correlated with depression or anxiety, but did have a significant and positive association with self-esteem. Family High Standards and Family Order did not have significant associations with depression, anxiety or self-esteem.

As expected, Individual and Family Discrepancy was significantly and positively related to maladaptive psychological functioning, specifically depression and anxiety. A finding of particular interest for this study was whether Family Discrepancy had stronger associations with depression and anxiety compared to Individual Discrepancy. The results revealed that Individual Discrepancy had stronger associations with depression ($r = .44$, $p < .01$) and anxiety ($r = .50$, $p < .01$) compared to Family Discrepancy which was significantly and positively correlated to depression and anxiety by ($r = .33$, $p < .01$), and ($r = .31$, $p < .01$) respectively. In addition, Individual and Family Discrepancy had significant and negative associations with the study's variable that represented psychological adjustment, self-esteem.

Table 3.

Intercorrelations between Study Variables

	Variables	1	2	3	4	5	6	7	8	9
1	Individual Discrepancy	–								
2	Individual High Standards	-.06	–							
3	Individual Order	-.14	.35	–						
4	Family Discrepancy	.41**	-.17*	.19**	–					
5	Family High Standards	.03	.23**	-.07	.34**	–				
6	Family Order	.05	.10	.21**	.29**	.46**	–			
7	Depression	.44**	-.24**	.02	.33**	.08	.07	–		
8	Anxiety	.50**	-.23**	. 10	.31**	-.02	.07	.72**	–	
9	Self-esteem	-.55**	.33**	.24**	-.44**	-.02	-.11	-.68**	-.60**	–

Note. *$p < .05$, two-tailed; **$p < .01$, two-tailed.

Cluster Analysis based on APS-R scores

A cluster analysis was conducted on standardized APS-R scores to identify groups of perfectionists and non-perfectionists. A two-stage process consisting of a hierarchical and a nonhierarchical analysis was performed following the approach of other researchers conducting cluster analyses to study groups of perfectionists (Grzegorek et al., 2004; Mobley et al., 2005; Rice & Slaney, 2002).

The first stage involved a hierarchical analysis on APS-R scores using Ward's linkage method with the squared Euclidian distance measure. Decision making on choosing an appropriate number of clusters to categorize the data was assisted by recommendations from Hair

and Black (2000), who stated that the appropriate number of clusters can be chosen by observing

the agglomeration schedule and by determining which cluster solution fits best with the

theoretical underpinnings of the hypotheses. Specifically, Hair and Black suggest that the

researcher choose the number of clusters prior to the largest change in the coefficients of the

agglomeration schedule on the basis that small changes in the schedule represent similar clusters,

and a large change represents the formation of dissimilar clusters.

For the APS-R, the first large change in the agglomeration schedule occurred when

the solution decreased from a four to a three cluster solution (26%) and the second largest change

occurred when the solution decreased from a three to a two cluster solution (24%). Therefore the

four cluster and three cluster solutions based on APS-R scores were compared. The four cluster

solution revealed two clusters that were clearly adaptive and maladaptive perfectionists, whereas

the other two clusters were more difficult to interpret since they were not consistent with the

theoretical underpinnings of the construct of perfectionism. The three cluster solution was more

in line with previous studies and theoretical underpinnings. For this reason a three cluster solution

was chosen for the subsequent non-hierarchical cluster analysis.

A k-means analysis was chosen as the non-hierarchical cluster analysis. A three

cluster solution was determined from the previous hierarchical analysis. After specifying three

clusters for the analysis, a solution converged in 13 iterations. To facilitate the labeling of the

clusters, the between-cluster tests of mean differences were calculated using non-standardized

APS-R subscale scores. The results of mean differences and standard deviations according to

cluster groups are presented in Table 4. Consistent with previous studies (Grzegorek et al., 2004;

Mobley et al., 2005; Rice & Slaney, 2002), high Discrepancy scores were used to determine

maladaptive perfectionists. The first cluster (n=80) consisted of perfectionists with the lowest

Discrepancy scores and high scores on Order and High Standards, and was therefore labeled

adaptive perfectionists. The second cluster (n=76) was labeled maladaptive perfectionists, due to

this group having the highest Discrepancy scores, as well as high scores on High Standards and Order. The third cluster (n=46) seemed to be comprised of non-perfectionists, with the lowest scores on High Standards and Order. The Discrepancy scores for this group were in between those of the adaptive and maladaptive perfectionists.

Cluster Analysis based on APS-F scores

A cluster analysis, including a hierarchical and nonhierarchical analysis, was performed using APS-F scores to identify groups of perfectionists. The hierarchical analysis utilized the Ward's linkage method with the squared Euclidian distance measure. Hair and Black (2000) served as a guide in determining the appropriate number of cluster solutions. In the APS-F hierarchical analysis, the first large jump in the agglomeration coefficients occurred when the solution decreased from a three cluster to a two cluster solution. Due to the changes in the agglomeration schedule, and because the three cluster solution was consistent with the theories of previous studies comparing clusters of perfectionists (Grzegorek et al., 2004; Mobley et al., 2005; Rice & Slaney, 2002) a three cluster solution was chosen for the k-means analysis. After specifying three clusters for the k-means analysis, a solution converged in 12 iterations. Between-cluster tests of mean differences were computed using non-standardized APS-F subscale scores to aid in the labeling of clusters. The results are displayed in Table 5. The first cluster (n=103) was labeled adaptive perfectionists family because it had low Discrepancy scores and moderate scores on Order and High Standards. The adaptive perfectionists' family scores for High Standards and Order were in between those of the maladaptive perfectionists' family and the non-perfectionists' family. The second cluster (n=69) had the highest scores on Discrepancy, High Standards, and Order, and was therefore labeled maladaptive perfectionists family. The third cluster (n=30), was

named non-perfectionists family, and displayed the lowest scores on Discrepancy, High

Standards and Order.

Differences between Individual Perfectionism Clusters on the Variables of Depression, Anxiety, and Self-esteem

The three clusters of perfectionists identified by the cluster analysis based on APS-R

scores were used in the following analysis. A multivariate analysis of variance (MANOVA) was

conducted with the cluster membership as the between subjects factor to determine if there were

significant differences among adaptive perfectionists, maladaptive perfectionists, and non-

perfectionists on their scores for depression, self-esteem, and anxiety. Effect sizes for statistically

significant mean differences ranged from .10 to .58. These results as well as Tukey B post hoc

comparisons are shown in Table 4. The multivariate effect was statistically significant, Wilks's Λ

$= .14$, $F (18,382) = 35.68$, $p < .001$, partial $\eta^2 = .63$. Please refer to Table 4 for the mean values

according to perfectionist group. Adaptive perfectionists had significantly lower scores than

maladaptive perfectionists, and non-perfectionists on the scales measuring depression and

anxiety. However, maladaptive perfectionists did not differ significantly from the non-

perfectionists on the variables of depression and anxiety. Adaptive perfectionists reported

significantly higher self-esteem scores than maladaptive perfectionists, and non-perfectionists.

Maladaptive perfectionists and non-perfectionists did not reveal significant differences on self-

esteem scores. Univariate F tests were conducted to compare individual and family perfectionism

among clusters of perfectionist groups that were based on APS-R scores. Adaptive perfectionists

endorsed significantly higher scores on the subscale High Standards compared to non-

perfectionists, but did not differ from maladaptive perfectionists on these scores. Non-

perfectionists and maladaptive perfectionists did not differ significantly on High Standards. The

three groups, adaptive perfectionists, maladaptive perfectionists and non-perfectionists, differed

significantly from each other on Order scores. Adaptive perfectionists reported the highest Order

scores, followed by maladaptive perfectionists, and then non-perfectionists. Maladaptive

perfectionists endorsed significantly higher Discrepancy scores compared to adaptive

perfectionists, and non-perfectionists. Non-perfectionists and adaptive perfectionists were also

significantly different on Discrepancy scores

With regards to Family Perfectionism scores, adaptive perfectionists reported

significantly lower scores on Family Discrepancy compared to maladaptive perfectionists but did

not differ from non-perfectionists on these scores. Non-perfectionists and maladaptive

perfectionists did not reveal significantly different scores on Family Discrepancy.

Differences between Family Perfectionism Clusters on the Variables of Depression, Anxiety, and Self-esteem

The three clusters identified by the cluster analysis based on family perfectionism

scores were used in this analysis. A multivariate analysis of variance (MANOVA) was

conducted with the cluster membership as the between subjects factor to determine if there were

significant differences among adaptive perfectionists family, maladaptive perfectionists family,

and non-perfectionists family on their scores for depression, self-esteem, and anxiety. Effect

sizes for statistically significant mean differences ranged from .45 to .70. The multivariate effect

was statistically significant, Wilks's $\Lambda = .15$, $F (18,382) = 34.05$, $p < .001$, partial $\eta^2 = .62$. The

three cluster groups (adaptive perfectionists family, maladaptive perfectionists family, and non-

perfectionists family) did not show significant differences amongst each other on the scales of

depression, self-esteem and anxiety. Univariate F tests were also conducted to compare family

and individual perfectionism among clusters of perfectionists. Only the F tests of the Family

Perfectionism subscales were significant at $p < .001$. Table 5 presents these results along with Tukey B post hoc comparisons. Maladaptive perfectionists family endorsed significantly higher scores on the subscale Family Discrepancy than adaptive perfectionists family, but did not differ significantly from non-perfectionists family on these scores. Adaptive perfectionists family and non-perfectionists family did not reveal significant differences on Family Discrepancy scores. Maladaptive perfectionists family had significantly higher Family Order and Family High Standards scores compared to the adaptive perfectionists family and non-perfectionists family. Adaptive perfectionists family reported significantly higher scores on Family Order and Family High Standards scores than non-perfectionists family. Adaptive perfectionists family, maladaptive perfectionists family, and non-perfectionists family did not reveal significant differences on personal perfectionism scores. Please refer to Table 5 for the mean values according to perfectionist group.

Table 4.

Means and Standard Deviations by APS-R Cluster Groups

Subscale	Adaptive Perfectionists n = 80		Maladaptive Perfectionists n = 76		Non-Perfectionists n = 46			
	M	SD	M	SD	M	SD	F	eta^2
Individual Perfectionism								
Subscale (# items)								
High Standards (7)	44.62[a]	4.07	44.51[a]	3.53	35.37[b]	5.49	83.94	.45
Order (4)	24.39[a]	3.19	21.72[b]	4.11	16.20[c]	4.69	65.68	.39
Discrepancy (12)	31.79[a]	8.50	57.94[b]	10.07	43.30[c]	11.61	141.98	.58
Family Perfectionism								
High Standards (9)	49.60[a]	9.33	51.16[a]	9.00	49.00[a]	9.43	.95	.01
Order (4)	21.56[a]	5.10	21.92[a]	4.37	20.22[a]	5.50	1.79	.02
Discrepancy (17)	37.69[a]	14.26	51.12[b]	21.65	48.76[ab]	21.05	11.15	.10
Scale (# items)								
Depression (20)	13.37[a]	9.02	21.66[b]	11.51	21.09[b]	10.92	14.85	.13
Self-Esteem (10)	36.08[a]	3.68	30.55[b]	5.97	30.64[b]	5.77	29.07	.22
Anxiety (20)	36.10[a]	11.22	45.42[b]	13.05	44.01[b]	11.87	13.40	.12

Note. All univariate *F* tests were significant at $p < .001$, with the exception of Family High Standards and Family Order. *F* tests for the variables were based on $df = 2, 199$. Values with different subscripts indicate significant within-row differences between the clusters using Tukey post hoc comparisons, significant at $p < .005$.

Range of scores for Individual Perfectionism subscales are: High Standards (7-49), Order (4-28), and Discrepancy (12-84). Range of scores for Family Perfectionism subscales are: High Standards (9-63), Order (4-28), and Discrepancy (17-119). Range of scores for the following scales are: STAI (20-80), CESD (0-60), and RSE (10-40).

Means and Standard Deviations by APS-Family Cluster Groups

Subscale	Adaptive Perfectionists Family		Maladaptive Perfectionists Family		Non-Perfectionists Family			
	n = 103		*n* = 69		*n* = 30			
	M	SD	M	SD	M	SD	F	eta^2
Individual Perfectionism								
Subscale (# items)								
High Standards (7)	42.94 [a]	5.17	42.68 [a]	6.15	40.39 [a]	6.12	2.51	.02
Order (4)	21.30 [a]	4.71	21.74 [a]	5.59	22.29 [a]	4.33	.52	.01
Discrepancy (12)	42.09 [a]	14.70	48.68 [a]	14.96	41.10 [a]	14.55	4.93	.05
Family Perfectionism								
High Standards (9)	50.63 [a]	5.03	56.77 [b]	4.91	32.94 [c]	5.86	233.02	.70
Order (4)	20.75 [a]	3.63	25.22 [b]	2.64	15.42 [c]	5.32	81.00	.45
Discrepancy (17)	37.74 [a]	11.84	63.52 [b]	19.53	29.39 [a]	8.97	86.48	.46
Scale (# items)								
Depression (20)	16.50 [a]	10.61	21.48 [a]	11.03	17.00 [a]	11.82	4.52	.04
Self-Esteem (10)	33.65 [a]	5.25	30.92 [a]	5.87	34.03 [a]	6.30	5.78	.05
Anxiety (20)	40.38 [a]	12.33	42.62 [a]	13.32	42.21 [a]	13.30	.71	.01

Note. Only the *F* tests of the Family Perfectionism subscales were significant at *p* < .001. *F* tests for the variables were based on *df* = 2, 199. Values with different subscripts indicate significant within-row differences between the clusters using Tukey post hoc comparisons, significant at *p* < .005.

Range of scores for Individual Perfectionism subscales are: High Standards (7-49), Order (4-28), and Discrepancy (12-84). Range of scores for Family Perfectionism subscales are: High Standards (9-63), Order (4-28), and Discrepancy (17-119). Range of scores for the following scales are: STAI (20-80), CESD (0-60), and RSE (10-40).

Chapter 5

Discussion

This chapter summarizes and discusses the findings of this study based on the sequence of the study's hypotheses. The limitations of the study are also presented, and suggestions for future research are discussed.

A main goal of this study was to test the factor structure of the APS-R on a Latino college student sample with the aim of assessing whether the theorized model is appropriate for this population. A confirmatory factor analysis (CFA) was used to test the hypothesized three factor structure of the APS-R with a Latino college sample. The adequacy of the theorized model fit to the present data was informed by a chi-square test, a comparative fit test, and root-mean-square-error. Though the results from the chi-square test revealed that the data did not fit the hypothesized model, a comparative fit index, and the RMSEA value suggested that there was an acceptable fit of the data to the model. Based on previous studies testing the factor structure of the APS-R with majority participants (Slaney et al., 2001; Suddarth & Slaney, 2001), the CFA tested the three factor structure of the APS-R with this Latino college student sample, and yielded the theorized factors: Discrepancy, High Standards, and Order. Factor loadings ranged from .52 to .82 for Discrepancy, .21 to .81 for High Standards, and .67 to .85 for Order. Cronbach's alpha reliability coefficients revealed that the subscales had good internal consistency.

The patterns of factor correlations were consistent with previous studies showing negative relationships between Discrepancy, and High Standards (-.05) and Order (-.13), and positive associations between High Standards and Order (.31) (Mobley et al., 2005; Rice & Ashby, 2007; Slaney et al., 2001). These findings differed slightly from those of Slaney and his colleagues' (2001) study which examined the factor structure of the APS-R utilizing a

predominantly Caucasian sample, and reported the following factor correlations: Discrepancy and

High Standards (sample I = -.07; sample 2 = -.13), Discrepancy and Order (sample I = -.05;

sample 2 = -.19), and Order and High Standards (sample I = .41; sample 2= .47). The low

correlations between Discrepancy, and the subscales Order and High Standards in this study, as

well as in Slaney et al.'s study suggest that Discrepancy is independent of the other factors. In

addition, the negative associations between Discrepancy and High Standards make sense given

previous studies that have found that Discrepancy has correlated with maladaptive psychological

variables, whereas High Standards and Order have been associated with adaptive psychological

variables.

To further test the construct validity of the APS-R with Latino college students, it was

of import to examine whether there were similar relationships between the APS-R subscales, and

adaptive and maladaptive psychological variables compared to previous findings. The

correlations between APS-R subscale scores and depression, anxiety, and self-esteem were

similar to those found in past studies (Mobley et al., 2005; Slaney et al., 2001). The results from

this study revealed that Discrepancy was significantly and positively correlated with depression (r

= .40, p < .01) and anxiety (r = .50, p < .01), and had significant and negative associations with

self-esteem (r = -.55, p < .01). The Latino participants in this study reported a stronger negative

relationship between Discrepancy and self-esteem compared to Caucasian respondents in Slaney

et al.'s study (2001) (rs = -.35 and -.44). This difference could be related to this study's smaller

sample size compared to Slaney and colleagues' study, which had 347 participants in the first

sample, and 258 respondents in the second sample. A more compelling rationale for the inverse

relationship between Discrepancy and self-esteem may be that the relationship is stronger among

Latinos, though it is clear that more research is needed in this area. For some of the Latinos in this

study, this relationship may reflect the negative feelings associated with having the desire to

attain their goals but feeling limited to do so. For these participants, not meeting their standards

could be related to the real barriers that many Latino students face. Research has shown that factors such as low SES, lack of parental support, and language minority status are variables that can differentiate between Latino college students who complete their degree compared to those who do not (Sciarra & Whitson, 2007). Moreover, those students who believe they have little control over their environment may be less inclined to address and overcome their barriers, which may negatively impact their self-esteem. There is evidence to suggest that among educational, psychological, and familial predictor variables, internal locus of control is one of the strongest predictors of postsecondary completion among Latino students (Sciarra & Whitson, 2007). Future research may be able to inform us if a third variable, such as locus of control plays a role in the relationship between maladaptive perfectionism and self-esteem for Latinos.

A clinical implication based on the finding that there was a strong inverse relationship between Discrepancy and self-esteem is that when working with Latino maladaptive perfectionists, clinicians assess if there is a relationship between the client's maladaptive perfectionism and low self-esteem. For maladaptive perfectionists with low self-esteem, an increase in self-esteem may have a protective effect from the negative impact of maladaptive perfectionism. There is evidence to suggest that self-esteem can be a buffer to the negative effects of maladaptive perfectionism. The results from a study that conducted hierarchical regression analyses revealed that participants with high self–esteem were unlikely to be depressed despite having high levels of maladaptive perfectionism (Rice, Ashby, & Slaney, 1998). In the same study, respondents with low levels of self-esteem did not report being depressed unless they also had high levels of maladaptive perfectionism (Rice et al., 1998). Another reason to specifically address low self-esteem among Latino college students relates to research that suggests that among a variety of personal and interpersonal variables, self-esteem was one of the strongest predictors of college adjustment among Latino students (Yazedjian & Toews, 2006). This is

important because previous research has found that minority students withdraw from college for personal reasons such as not adjusting to a new environment (Kalsner & Pistole, 2003).

It seems particularly appropriate when working with Latino maladaptive perfectionists that clinicians address the cause of the client's discrepancy or distress that the client is experiencing due to his or her perceived failure of not meeting his or her standards. As mentioned, some of the client's distress may be related to distorted negative self-evaluations, however, some distress may also be attributed to tangible barriers that the Latino college student may be facing. For example, if a student were to take a perfectionism scale such as the APS-R, he or she may relate the items of the scale to his or her academic performance, and the responses may be a realistic reflection of his or her economic or academic difficulties. Some of the Discrepancy items of the APS-R capture the negative feelings associated with not meeting one's goals (ex. "I often worry about not measuring up to my expectations" and "I often feel frustrated because I can't meet my goals"). Some Latino students may have high standards for their academic performance but may be confronted with barriers, such as working full-time while attending school or struggling with certain courses due to language difficulties making it difficult to reach their full potential. A clinician could help the client identify and overcome these barriers with interventions such as referring the student to academic support services or encouraging the client to seek out financial assistance.

Another finding from this study revealed that High Standards ($r = .33$, $p < .01$) and Order ($r = .24$, $p < .01$) were significantly and positively correlated with self-esteem. In addition, High Standards but not Order had significant and inverse relationships with depression ($r = -.24$, $p < .01$) and anxiety ($r = -.23$, $p < .01$). Though studies have reported mixed results, particularly with the subscale Order, previous studies have found similar associations between the APS-R subscales High Standards and Order, and positive psychological functioning. For example, in Slaney et al.'s (2001) study High Standards and Order had positive associations with self-esteem

in the study's second sample; however in the first sample only High Standards was positively correlated with self-esteem. Some clinical implications are offered in light of the findings. As mentioned, the Latino respondents with elevated scores on High Standards and Order reported higher self-esteem while students with higher scores on Discrepancy reported elevated levels of depression and anxiety, and lower levels of self-esteem. These findings suggest that it may be helpful for mental health clinicians to assist Latino clients struggling with perfectionism to distinguish between these three aspects of perfectionism. This is particularly important because as researchers have suggested, there is a commonly upheld belief that perfectionism is uniformly negative (Slaney, Ashby & Trippi, 1995). For example, by helping Latino clients differentiate between their standards, orderliness, and the perceptions that they are failing to achieve their standards, a mental health clinician may assist the client in fostering the positive aspects of their perfectionism while diminishing the deleterious effects of its maladaptive components. Hence, part of this process may include helping the perfectionistic client explore the beneficial as well as detrimental aspects of their high standards and orderliness. Given Discrepancy is tied to the cognitions and feelings related to not meeting one's standards, it may be helpful for perfectionistic clients to examine if they tend to set excessively high standards which may predispose them to more disappointments or the constant stress of trying to achieve their high standards. It may also be helpful for a client to explore the reality behind not achieving their goals. Though some perfectionistic clients may in fact not be meeting their standards, other clients may be meeting their standards but undermining their accomplishments thereby leading to negative feelings. Cognitive behavioral techniques may be useful in assisting clients with not only setting realistic standards, but also with challenging possible distorted or negative thoughts related to not meeting their high standards.

To summarize, the findings from these analyses, specifically the examination of the underlying factors of the Almost Perfect Scale-Revised, the pattern of factor loadings, and

associations between the factors and the dependent variables of the study, suggest that the APS-R

is a valid measure of perfectionism that can be utilized in research with Latino college students.

These findings are important given the lack of studies examining the construct of perfectionism,

as well as the validity of perfectionism measures among Latinos. Moreover, the findings from this

study provide additional support to the assertion that the APS-R is capable of measuring negative

and positive aspects of perfectionism, two important assets of the scale. Clinical suggestions were

offered based on the findings related to the associations between Individual Discrepancy and self-

esteem, and High Standards and the study's dependent variables among this Latino sample.

Exploratory Factor Analysis of the Almost Perfect Scale-Family (APS-F; Methikalam, Slaney, & Wang, 2005)

Another aim in this study was to examine the factor structure and validity of the APS-

F, a 39-item scale that measures an individual's perceptions of the perfectionism conveyed to

them by his or her family, with a Latino college student sample. Based on previous theory it was

speculated that the items of the APS-F would load on three factors. The final solution yielded 17

items on the Family Discrepancy factor, 9 items on the Family High Standards and 4 items on the

Family Order factor, for a total of 30 items. The Family Discrepancy factor relates to the degree

to which an individual perceives that he or she is not meeting the standards of performance set by

his or her family. Some of the items endorsed in this subscale were: "I often feel frustrated

because I can not meet the goals my family has for me", and "My family is not satisfied even

when they know I have done my best". The Family Standards factor reflected the degree an

individual perceives that his family has set high standards and expectations for him or her. Some

of the examples in this subscale were, "My family has high standards for me", and "I am aware

that my family sets standards that are unrealistically high". The Family Order subscale assesses

the degree to which an individual perceives that his or her family expects him or her to be orderly and neat, and an example of an item is, "My family expects me to always be organized and disciplined".

To further test the construct validity of the APS-F with this sample the correlations between the APS-F scale and the dependent variables of depression, anxiety, and self-esteem were examined, and revealed interesting findings. Family Discrepancy had significant and positive correlations with depression ($r = .33$, $p < .01$) and anxiety, ($r = .31$, $p < .01$), and was inversely and significantly related to self-esteem ($r = -.44$, $p < .01$). Family High Standards and Family Order were not significantly associated with depression, anxiety, or self-esteem. It was not expected that Family High Standards and Family Order would not have significant relationships with the study's dependent variables. This study replicated Wang's (2007) findings, which utilized the APS-F. His study revealed significant relationships between Family Discrepancy and depression ($r = .38$, $p < .01$) and self-esteem ($r = -.43$, $p < .01$), and no significant relationships between Family High Standards, and depression and self-esteem. The findings suggest that with the Latino respondents in this study, having the perception that their family had high standards of performance for him or her, did not necessarily contribute to negative feelings, specifically depressed mood and anxiety, however, having the perception that they were failing to meet their family's standards did.

Given the significance and the strength of the relationships between individual perfectionism and the study's dependent variables in comparison to family perfectionism, it seems that the way these respondents viewed themselves in terms of achieving their own standards, had a greater influence on their mental health than the way they believed their family perceived them with regards to achieving their standards. Nonetheless, there was a significant relationship between family maladaptive perfectionism, and depression and anxiety for the Latino respondents in this study.

Familism and Family Perfectionism among Latinos

Literature in the social sciences related to Latinos has investigated the relevance of the construct of familism among Latinos, and its relationship with variables such as acculturation (Gil et al., 1996; Sabogal et al., 1987), and child maltreatment (Coohey, 2001). Researchers have pointed out that the family is the cornerstone of the Latino culture (Aguila, 2002), and that familism or the attitudes and behaviors that reflect the loyalty, obligation, and support of the family, is an important cultural norm shared by Latinos (Smart et al., 1995). The Latino value placed on familism may help explain why it was important for the Latinos in this sample to meet the expectations set by their family, and why the perception that they were failing to meet these expectations was associated with negative feelings. Based on the view that Latinos may be more influenced by family rather than individual expectations, it was hypothesized that Family Discrepancy would be more strongly related to depression and anxiety than Individual Discrepancy. The results did not support this hypothesis. Individual Discrepancy had a stronger relationship with depression ($r = .40$, $p < .01$) and anxiety ($r = .50$, $p < .01$) than Family Discrepancy (depression: $r = .33$, $p < .01$; anxiety: $r = .31$, $p < .01$).

A reason why Individual Perfectionism may have had stronger associations to negative psychological functioning compared to Family Perfectionism may be related to the sample used in this study. This study's sample included Latino college students who may be more assimilated to the cultural values of this country, and may reflect higher levels of acculturation than the general Latino population. Acculturation occurs when an individual migrates to a host country and negotiates the cultural norms, behaviors, and language of his or her country of origin with those of the host country (Acevedo-Polakovich, Reynaga-Abiko, Garriot, Derefinko, Wimsatt, Gudonis & Brown, 2007). Researchers have utilized an array of variables such as length of time in a host country, including generational status, and English language facility as proxies

for acculturation, and have assumed that the longer an individual is in the host country the more acculturated he or she will be (Arcia, Skinner, Bailey, & Correa, 2001). Arcia et al. (2001) assert that though a variable such as length of time in a host country can be used as an indicator of acculturation it is important to keep in mind that an interactive effect with another factor such as country of origin is possible, which may affect acculturation. Though acculturation was not assessed in this study, generational status can be used as one indicator of acculturation. Approximately sixty-eight percent of the respondents in this sample were second or third generation rather than first generation Latinos, suggesting a large portion of the participants may have had higher levels of acculturation. Given that this sample may represent Latinos with higher levels of acculturation it is possible that the participants in this study may have placed a greater value on Western values such as individualism, thereby influencing their views on perfectionism. Moreover, because acculturation was not fully addressed in this study it is not possible to determine whether the less acculturated respondents in this study had higher scores on the family perfectionism measures in comparison to the respondents with higher levels of acculturation.

It is important to note that though the study's results did not support hypothesis #3, Family Discrepancy did have moderate positive correlations with depression and anxiety, and negative associations with self esteem. The results support the premise that maladaptive family perfectionism is associated with the negative mental health functioning of Latinos. A clinical implication related to the latter is that when a clinician is working with a Latino client struggling with perfectionism it would be helpful to not only assess individual maladaptive perfectionism but also to examine the thoughts and feelings related to not meeting his or her family's expectations in order to diminish the negative impact attributable to these thoughts and feelings. Qualitative research related to Latino college retention has highlighted the complexity related to Latino students believing their family is a main source of support but also a source of pressure,

including the pressure to stay in school (Hernandez, 2000). Therapeutic interventions could help a

Latino maladaptive perfectionist address the real or perceived pressures from his or her family.

The findings from this study support the use of therapeutic interventions that

emphasize the importance of the family, and support the family system when working with

Latino clients in a college setting. Emphasizing the importance of family support for Latino

college students, is research that suggests that parental (instrumental) support is one of the

strongest predictors of a Latino college student completing a bachelor's degree or higher (Sciarra

& Whitson, 2007). Along these lines, parental attachment has been shown to be related to college

adjustment among Latino college students (Yazedjian & Toews, 2006).

To summarize, the pattern of factor loadings from the exploratory factor analysis and the

associations between the factors and the study's dependent variables, provide additional support

that the APS-F is a valid measure of perceived family perfectionism, and can be used when

researching family perfectionism among Latino college students. The results revealed that

Individual Discrepancy had a stronger relationship with depression and anxiety than Family

Discrepancy. Lastly, the clinical implications based on the finding that Family Discrepancy had

moderate relationships with depression, anxiety, and self-esteem were discussed.

Differences between Individual Perfectionism Clusters on the Variables of Depression, Anxiety, and Self-esteem

A cluster analysis was performed on standardized APS-R scores to identify groups of

perfectionists and non-perfectionists. The cluster analysis yielded similar results from previous

studies (Grzegorek et al., 2004; Mobley et al., 2005; Wang, 2007). The findings were consistent

with hypothesis #4 of the study, which speculated that a cluster analysis of the APS-R would

identify three clusters of perfectionists: adaptive perfectionists (n=80), maladaptive perfectionists

(n=76), and non-perfectionists (n=46). Unlike the perfectionism clusters from previous studies which differed significantly on the subscale scores for which they were based, the adaptive perfectionists and maladaptive perfectionists in this study did not differ significantly on Individual High Standards scores. This could be explained by adaptive perfectionists and maladaptive perfectionists scoring similarly on the High Standards subscale. Specifically, both groups revealed elevated High Standards scores. As mentioned in Table 4, the highest possible score for each APS-R item is 7, and with 7 items in this subscale the highest total subscale score is 49. The adaptive perfectionists and maladaptive perfectionists had mean High Standards subscale scores of (M=44.62) and (M=44.51), respectively.

A MANOVA assessed if there were significant differences among adaptive perfectionists, maladaptive perfectionists, and non-perfectionists on the variables of depression, anxiety, and self-esteem. Consistent with the results of previous studies and as was partly hypothesized, maladaptive perfectionists reported significantly higher scores on depression and anxiety compared to the adaptive perfectionists (Grzegorek et al., 2004; Mobley et al., 2005; Rice & Slaney, 2002; Wang, 2007). However, hypothesis #5, which stated that maladaptive perfectionists, as identified by APS-R scores, would report significantly higher levels of depression and anxiety than adaptive perfectionists and non-perfectionists was only partially correct because maladaptive perfectionists were not significantly different from the non-perfectionists on the measures of depression and anxiety. The non-perfectionists revealed scores that were in the middle of the maladaptive perfectionists' and the adaptive perfectionists' scores on the measures of depression, anxiety, and self-esteem.

It was hypothesized (hypothesis #6) that adaptive perfectionists would report significantly higher levels of self-esteem compared to maladaptive perfectionists and non-perfectionists. The results supported the hypothesis that adaptive perfectionists had significantly higher levels of self-esteem compared to the other two groups. Other studies found similar

associations between adaptive perfectionists and self-esteem (Grzegorek et al., 2004; Mobley et al., 2005; Wang, 2007).

Of interest was that this study revealed no significant differences between non-perfectionists and maladaptive perfectionists on depression, anxiety, and self-esteem. This finding differs from similar studies with predominately Caucasian participants (Grzegorek et al., 2004; Rice & Slaney, 2002). Grzegorek et al. (2004) reported significant score differences between non-perfectionists (n=117) and maladaptive perfectionists (n=72) on the Depressive Experiences Questionnaire (Blatt et al, 1976) but found no differences between these two groups on self-esteem. Though there were no differences between non-perfectionists (n=102) and maladaptive perfectionists (n=108) on the dependent variables of positive and negative affect, and self-esteem in their second sample, Rice and Slaney (2002) reported significant differences between non-perfectionists (n=80) and maladaptive perfectionists (n=66) on self-esteem and anxiety in their first sample. These differences could be related to this study's smaller sample size compared to the other studies (Grzegorek et al., 2004; Rice & Slaney, 2002). Perhaps this difference is also specific to this ethnic group, though clearly more research is needed to determine if ethnicity plays a role in this finding. Another explanation could be related to Discrepancy levels. With this study, like most perfectionism studies conducting cluster analyses with APS-R scores, maladaptive perfectionists had the highest Discrepancy scores followed by non-perfectionists. In addition, by also observing the family perfectionism scores of these clusters, we can see that non-perfectionists and maladaptive perfectionists had high to moderate Individual and Family Discrepancy. Discrepancy is a major defining variable in this perfectionism scale, and it is possible that moderate to high Individual and Family Discrepancy scores may yield a similar impact on the dependent variables of depression, anxiety and self-esteem, explaining the lack of significant difference between maladaptive perfectionists and non-perfectionists on these variables. This would be consistent with the findings from Mobley et al.'s study (2005) that did

not find significant differences between non-perfectionists and maladaptive perfectionists, on measures of depression, anxiety, and self-esteem, and the findings of sample 2 of Rice and Slaney's (2002) study.

The pattern of the relationships between the perfectionism clusters and the study's positive and negative dependent variables provides additional support to the theory that discriminates between the normal and the neurotic aspects of perfectionism (Hamachek, 1978). The results of this study indicate that adaptive perfectionists shared better mental health than the maladaptive perfectionists and non-perfectionists in this study. Along these lines, maladaptive perfectionists seemed to have the least adaptive psychological functioning of the two groups. By observing the family perfectionism subscales' mean scores according to individual perfectionism cluster membership (Table 4) we can see that the adaptive perfectionists had significantly lower scores on Family Discrepancy compared to the maladaptive perfectionists. This suggests that these respondents tended to perceive their family as having aspects of adaptive perfectionism, specifically in that their family set high standards that they were able to meet, and they were less critical of their performance compared to the maladaptive perfectionists. Compared to the adaptive perfectionists, the maladaptive perfectionists tended to perceive their family as having aspects of maladaptive perfectionism in that they viewed their family as being more critical of their performance, and setting standards that they were unable to meet. In the following segment, I will discuss if clustering participants into Family Perfectionism groups revealed significant differences in mental health functioning.

Differences between Family Perfectionism Clusters on the Variables of Depression, Anxiety, and Self-esteem

In order to identify groups of family perfectionists, a two-step cluster analysis was performed on standardized APS-F scores. The individual perfectionism scores among family perfectionist groups were computed to compare similarities and differences between groups. The results revealed no significant differences between the family perfectionist clusters on individual perfectionism scores based on APS-R scores.

A MANOVA was conducted to determine if there were significant differences among adaptive perfectionists-family, maladaptive perfectionists family, and non-perfectionists family on the variables of depression, anxiety, and self-esteem. The results of the cluster analysis based on APS-F scores supported hypothesis #7, which theorized there would be three clusters of perfectionists: adaptive perfectionists family (n=103), maladaptive perfectionists family (n=69), and non-perfectionists family (n=30).

Hypothesis #8 of this study speculated that maladaptive perfectionists family would report significantly higher scores on depression and anxiety compared to adaptive perfectionists family and non-perfectionists family. Hypothesis #9 theorized that adaptive perfectionists family would report significantly higher scores on self-esteem compared to the adaptive perfectionists family and non-perfectionists family. The findings did not support hypotheses #7 or #8. There were no significant differences between maladaptive perfectionists family, adaptive perfectionists family, and non-perfectionists family on the dependent variables of depression, anxiety, and self-esteem. Several explanations are offered for these results. The APS-F is a relatively new scale and more research is needed to assess whether this scale lends itself to identifying functional family perfectionism groups through cluster analysis. Though cluster analysis reveals natural groupings, these groupings may not provide us with practical clinical information regarding the categorizations. Along these lines, perhaps comparing the family perfectionism clusters on

different psychological measures (ex. personality tests) would reveal significant differences. In addition, the APS-F items retained from this study's exploratory factor analysis were utilized for the cluster analysis. It is possible that the present APS-F's subscales of Family High Standards, Family Order, and Family Discrepancy are not as clearly defined as the APS-R. With continued research that assesses the construct validity of the APS-F, perhaps a more statistically sound version of the APS-F will emerge that when used with cluster analyses will yield clearer results.

Another explanation for the lack of significant differences among the family perfectionism clusters and the dependent variables could be that the results from the cluster analyses with APS-F scores could be less clear with this ethnic group. Studies with different ethnic samples may find significant differences between family perfectionism groups as identified by the APS-F, on mental health functioning. In addition, unlike with the APS-R this is the first study to conduct a cluster analysis with the APS-F so there are no studies to compare it to with regards to sample size. It is possible that this study's sample size could have impacted the significance of the relationships between the family perfectionism clusters and the study's dependent variables.

Other Findings

It is worth noting that this sample revealed elevated scores on the measures of depression and anxiety. The respondents' scores on self-esteem were comparable to self-esteem scores from studies investigating perfectionist groups with predominately Caucasian students (Grzegorek et al., 2004) and African American students (Mobley et al., 2005). The mean scores on depression, anxiety, and self-esteem as measured by the CESD, the STAI, and the RSE were: ($M = 18.24$) and ($M = 41.35$), and ($M = 32.80$) respectively. A cut-off CES-D score above 16 has been associated with symptoms of depression, however more recently researchers recommend

that CES-D scores be interpreted more broadly to be indicative of distress (Blaney, 1986). A cut-

point of 40 on the STAI-State scale has been commonly used for clinically significant symptoms

of a state of anxiety (Addolorato, Ancona, Capristo, Graziosetto, Di Rienzo, Maurizi, &

Gasbarrini, 1999). The elevated scores, particularly with depression as measured by the CESD,

should be interpreted with caution since researchers have reported consistent differences with the

way Latinos conceptualized depression (Angel & Guarnaccia, 1989). Moreover, the elevated

depression and anxiety scores found in this study could be related to Latino response styles.

Studies have reported cultural differences in response styles to Likert scales (McQuiston, Larson,

Parrado & Flaskerud, 2002; Hui & Triandis, 1989). A pattern of extreme responses has been

noted with Latino respondents (Hui & Triandis, 1989; Marin, Gamba, & Marin, 1992), and an

explanation offered for this pattern relates to the respondent considering such a response as more

sincere, compared to a moderate response that would be considered as trying to hide one's

feelings (Hui & Triandis, 1989).

Limitations of the Study

It is worth noting that this study had a number of sampling limitations. First, the

study's sample represented a significantly larger percentage of females (76%) compared to males

(24%). However, T tests to determine differences on the study's dependent variables according to

gender did not reveal significant differences. Second, since this study consisted of college

students more research is needed to determine whether the results of this study can be generalized

to Latinos that did not attend college, as well as other groups (ex. varying age groups). Third,

with regards to the country of origin, the two largest groups represented in this study were

Latinos from countries in the Caribbean (44%) and South America (26%). Though there were no

significant differences on the study's dependent variables according to participant's country of

origin or Latin American region membership, researchers should be cautious when generalizing the findings of this study to Latin American groups not represented in this sample. Another limitation is related to the sample size of this study. Though there is no agreed upon method to determine the sample size needed for a cluster analysis, this study had a smaller sample size than previous studies utilizing mainstream samples to perform cluster analyses based on APS-R scores (Rice et al., 2002; Grzegorek et al., 2004). It is possible that the differences between the results of this study and those utilizing Caucasian samples could be related to sample size.

Other limits of this study relate to research methods. This study utilized a correlational research design, therefore we can not determine the causality of the study's variables. Furthermore, a limitation of cluster analysis is that it "has no statistical basis on which to make statistical inferences from a sample to a population", and that "the solutions are not unique because the cluster membership for any number of solutions is dependent on many elements of the procedure" pp.149 (Hair & Black, 2000). Some of these elements include researcher judgments on the decision making process of choosing cluster solutions. Nonetheless, cluster analysis has been widely used in a variety of fields, and the information derived from this method has had many useful practical applications (Hair & Black, 2000).

Another limitation relates to the lack of research testing the psychometric properties of the Almost Perfect Scale-Family. The findings from this study related to the APS-F should be interpreted with caution given the lack of research testing the validity and reliability of the scale, particularly with Latinos. Moreover, the APS-F assesses a respondent's perceptions rather than actual testaments from family members on family perfectionism. It is possible that an individual's perceptions about his or her family's perfectionism may vary from the perceptions of his or her family.

Future Research

Though the confirmatory factor analysis of this study provided reassuring results related to the construct validity of the APS-R with Latino college students, more research is needed to further assess the validity and reliability of the APS-R with Latinos. For the most part, this study was able to replicate the results of previous studies conducting cluster analysis with APS-R scores (Mobley et al., 2005; Rice et al., 2002). Based on these findings, it seems productive for researchers to continue to investigate the relationship between individual perfectionism clusters and mental health functioning among Latinos. Assuming the replication of this study's findings, an area for future research relates to accounting for a lack of significant differences between maladaptive perfectionists and non-perfectionists on the variables depression, anxiety, and self-esteem. It would also be interesting to examine the differences among perfectionist clusters on variables not investigated in this study, such as objective performance outcomes. For example, a research question that can be addressed in a future study is whether maladaptive perfectionists, adaptive perfectionists, and non-perfectionists vary according to GPAs or work performance among Latinos.

The exploratory factor analysis based on APS-F scores yielded promising results that suggest this scale can be used for future research purposes to investigate family perfectionism among Latinos. Aside from this study, the APS-F has only been used in one other study that consisted of Asian American and Caucasian participants (Wang, 2007). More research is needed to assess the validity and reliability of the APS-F, particularly with a variety of diverse cultural samples to assess its cross cultural validity. The APS-F can be used in conjunction with other perfectionism scales to test the convergent validity of the scale. Given that many Latinos seem to maintain the socially oriented aspects of their culture, especially with regards to the family, the HMPS (Hewitt & Flett, 1991b), which assesses Socially Oriented Perfectionism, may be a good

scale to use in conjunction with the APS-F. In addition, some aspects of family perfectionism

may not be accounted for in this scale, so it may be informative for future studies to assess the

construct through qualitative means, such as personal interviews or focus groups. Given that the

APS-F assesses an individual's perceptions of his or her family perfectionism, it may be revealing

to assess the reality of the respondents' perceptions by assessing the family's perfectionism

directly. The APS-F can also be administered to family members to examine possible patterns of

family perfectionism. In other words, does the respondent's parent perceive their parents

similarly?

In this study the results revealed that there were no significant differences between

maladaptive perfectionists family, adaptive perfectionists family, and non-perfectionists family

on the measures of depression, anxiety, and self-esteem among Latino college students. Future

studies with Latino samples are needed to perform cluster analyses based on APS-F scores

utilizing different psychological measures to assess whether there are significant differences

among family perfectionists groups on mental health functioning.

Other research methods, such as multiple regression analysis, can be used to study

family perfectionism among Latinos. A question that was raised in this study was whether other

cultural variables, such as acculturation, played a role on the family perfectionism of the

respondents. It would be interesting if future studies could assess whether acculturation has

moderating effects on the relationship between family perfectionism and mental health

functioning among Latinos. Based on findings that point out the protective effects of familism

for Latinos (Gil & Vega, 2000) it may be of interest to some researchers to investigate whether

familism is a buffer for the harmful effects of maladaptive perfectionism.

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Appendix A

Informed Consent for The Pennsylvania State University

Page 1 of 2

Informed Consent Form for Social Science Research
The Pennsylvania State University
Title of Investigation: Perfectionism among Latino College Students

Investigator: Norma E. Ortega, M.A., Doctoral Candidate,
        Counseling Psychology, 327 Cedar Building,   University Park, PA 16802
        (347) 439-7363; email: neo105@psu.edu
Advisor: Robert B. Slaney, Ph.D., Professor of Counseling   Psychology retired
        Counseling Psychology, 327 Cedar Building, University Park, PA 16802
        (814) 863-4594; email: rslaney@psu.edu

The purpose of this study is to learn about perfectionism among Latino college students. The questionnaires will assess some of your and your family's thoughts, attitudes, and feelings. If you agree to participate in this study, you will be asked to complete several questionnaires, which should take approximately 30-35 minutes to complete. All responses will be kept strictly confidential. Only the primary investigator (Norma Ortega, M.A.) and her advisor (Robert B. Slaney, Ph.D.) will have access to your answers. Your signed consent form will be kept separate from your questionnaires to protect confidentiality. Names will not be matched with questionnaires. In the event of publication of this research no personally identifying information will be disclosed. Your participation in this study is voluntary. You are free to stop participating at any time and there will be no penalty for not participating. You may also choose not to answer certain questions. If you choose to complete and return the questionnaires, your name (from your informed consent form) will be entered into a raffle. Two winners of the drawing will win a $100.00 cash prize.

This study involves minimal risk; that is, no risks to your physical or mental health beyond those encountered in the normal course of everyday life. If you would like to ask further questions about the study or would like to be referred to the counseling center due to discomfort raised from answering the questionnaires you may reach the principal investigator, Norma Ortega, through the phone number listed above.

This is to certify that, _____, hereby agrees to participate in a scientific investigation of perfectionism and its

relationship to depression, anxiety, and self-esteem as an authorized part of the education and research program of The Pennsylvania State University. As a participant, you agree to the conditions of this study as described. To the best of your knowledge and belief, you have no physical or mental illness or difficulties that would increase the risk to participating in this study. Upon completion and return of the questionnaires your name will be entered into a raffle for two $100.00 cash prizes for participation. The participant understands that his or her participation in this study is voluntary and that he or she may withdraw from this study at any time. The participant is a Latino/a student 18 years of age or older, and a student of this university.

You will be provided with a copy of the informed consent form, which you can keep.

_____

_____
Participant's Signature and date
Contact information (telephone # or email)

_____
Investigator's Signature and date

Appendix B

Informed Consent for Rutgers University

Informed Consent
Rutgers-The State University of N.J.
Title of Investigation**:** Individual and family Perfectionism and its relationship to depression, anxiety, and self-esteem among Latino College Students

Principal Investigators:

Larry Miller, MSW
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327 Cedar Building
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(347) 439 7363; email: msnormaeortega@yahoo.com

Advisor:

Jeffrey, Hayes, Ph.D., Professor of Counseling Psychology
Counseling Psychology, 327 Cedar Building, University Park, PA 16802
(814) 863-3799; email: jxh34@psu.edu

The purpose of this study is to learn about perfectionism among Latino college students. The study will include 200 participants. The questionnaires will assess some of your and your family's thoughts, attitudes, and feelings. If you agree to participate in this study, you will be asked to complete several questionnaires, which should take approximately 30-35 minutes to complete. All responses will be kept strictly confidential. Your signed consent form will be kept separate from your questionnaires to protect confidentiality. Names will not be matched with questionnaires. In the event of publication of this research no personally identifying information will be disclosed. Your participation in this study is voluntary. You are free to stop participating at any time and there will be no penalty for not participating. You may also choose not to answer certain questions. If you choose to complete and return the questionnaires, your name (from your informed consent form) will be entered into a raffle. Two winners of the drawing will win a $100.00 cash prize.

_____initials

A benefit of this study includes adding to the scarce research dealing with perfectionism among Latinos. This study involves minimal risk; that is, no risks to your physical or mental health beyond those encountered in the normal course of everyday life. If you would like to ask further questions about the study or would like to be referred to the counseling center due to discomfort raised from answering the questionnaires you may reach co-principal investigator, Norma Ortega, through the phone number listed above. If you have any questions about your rights as a research subject, you may contact the IRB Administrator at Rutgers University at:

Rutgers University Institutional Review Board for the Protection of Human Subjects
Office of Research and Sponsored Programs
3 Rutgers Plaza
New Brunswick, NJ 08901-8559
Tel: 732-932-0150 x 2104
Email: humansubjects@orsp.rutgers.edu

This is to certify that, _____, hereby agrees to participate in a scientific investigation of perfectionism and its relationship to depression, anxiety, and self-esteem. As a participant, you agree to the conditions of this study as described. To the best of your knowledge and belief, you have no physical or mental illness or difficulties that would increase the risk to participating in this study. Upon completion and return of the questionnaires your name will be entered into a raffle for two $100.00 cash prizes for participation. You understand that your participation in this study is voluntary and that you may withdraw from this study at any time. Lastly, you are a Latino/a student 18 years of age or older, and a student of this university.

You will be provided with a copy of the informed consent form, which you can keep.

_____

_____
Participant's Signature and date
Contact information (telephone # or email)

_____
Investigator's Signature and date

_____initials

Appendix C

Demographic Information Sheet

Please read and answer carefully the following questions by **checking**, **circling** or **writing** the appropriate response. Thank you in advance for your participation.

1) Age:_____

2) Check one: (   ) Undergraduate: If yes, circle one -   Fresh.   Soph.   Junior   Senior

                                   (   ) Graduate

3) Gender: Female_____   Male_____

4) Residency Status: U.S. citizen_____   U.S. resident_____
5) If not a U.S. citizen or resident, please fill in your country of origin_____
6) Generational Status:
        _____first-generation: foreign born
        _____second-generation: born in the U.S. with at least one foreign born parent
        _____third-generation: born in U.S. with parent/s born in the U.S.

7) Ethnicity: Please check and/or circle the country you or your parents migrated from:

                _____Mexico
                _____Puerto-Rico
                _____Dominican Republic
                _____Cuba
                _____ South-America:
                If yes, **please circle** which country: Colombia, Ecuador, Peru, Argentina, Paraguay, Uruguay, Venezuela, Chile, Bolivia
                _____Central-America:
                If yes, **please circle** which country: Costa Rica, Guatemala, Nicaragua, El Salvador, Honduras, Panama
                _____ Multiracial
                _____Other: _____

Appendix D

Almost Perfect Scale-Revised (APS-R; Slaney, Mobley, Trippi, Ashby, & Johnson, 1996)

Directions: The following items are designed to measure attitudes people have toward themselves and their parents. There are no right or wrong answers. Please respond to all of the items. Use your first impression and do not spend too much time on individual items in responding. Respond to each of the items using the scale below to describe your degree of agreement with each item.

      1 = Strongly Disagree
      2 = Disagree
      3 = Slightly Disagree
      4 = Neutral
      5 = Slightly Agree
      6 = Agree
      7 = Strongly Agree

1. I have high standards for my performance at work or at school.
2. I am an orderly person.
3. I often feel frustrated because I can't meet my goals.
4. Neatness is important to me.
5. If you don't expect much out of yourself, you will never succeed.
6. My best just never seems to be good enough for me.
7. I think things should be put away in their place.
8. I have high expectations for myself.
9. I rarely live up to my high standards.
10. I like to always be organized and disciplined.
11. Doing my best never seems to be enough.
12. I set very high standards for myself.
13. I am never satisfied with my accomplishments.
14. I expect the best from myself.
15. I often worry about not measuring up to my own expectations.
16. My performance rarely measures up to my standards.
17. I am not satisfied even when I know I have done my best.
18. I try to do my best at everything I do.
19. I am seldom able to meet my own high standards of performance.
20. I am hardly ever satisfied with my performance.
21. I hardly ever feel that what I've done is good enough.
22. I have a strong need to strive for excellence.
23. I often feel disappointment after completing a task because I know I could have done better.

Appendix E

The Almost Perfect Scale-Family (APS-F; Methikalam, Slaney, & Wang, 2005)

Directions: The following items are designed to measure your perceptions of the attitudes, beliefs, and values your family has and conveyed to you. There are no right or wrong answers. Please respond to all of the items. Use your first impression and do not spend too much time on individual items in responding.

Respond to each of the items using the scale below to describe your degree of agreement with each item.

> 1 = Strongly Disagree
> 2 = Disagree
> 3 = Slightly Disagree
> 4 = Neutral
> 5 = Slightly Agree
> 6 = Agree
> 7 = Strongly Agree

1. My family has high standards for my performance at work or at school.
2. My family believes that if I can't be the best, I should not even try.
3. My family expects me to admit I'm a perfectionist.
4. My family expects me to be an orderly person.
5. I often feel frustrated because I can't meet the goals my family has for me.
6. Neatness is important to my family.
7. My family believes, if you don't expect much out of yourself, you will never succeed.
8. My best just never seems to be good enough for my family.
9. My family thinks things should be put away in their place.
10. My family has high expectations for me.
11. My family expects me to have trouble when I leave things incomplete.
12. I rarely live up to my family's high standards.
13. My family expects me to always be organized and disciplined.
14. My family believes that it is easier to do something yourself than it is to get someone else to do it.
15. Doing my best never seems to be enough for my family.
16. It bothers my family when I am distracted when I have work to do.
17. My family sets very high standards for me.
18. Nothing short of perfect is acceptable in my family.
19. My family is never satisfied with my accomplishments.
20. My family likes me to be very careful and precise when measuring things.
21. My family expects the best from me.
22. I often worry about not measuring up to my family's expectations.

23. My performance rarely measures up to my family's standards.
24. I can generally meet the standards my family sets for me.
25. My family is not satisfied even when they know I have done my best.
26. My family expects me to try to do my best at everything I do.
27. I am seldom able to meet my family's high standards of performance.
28. My family likes it when I make a list of tasks I have to do and then check them off as I do them.
29. My family is hardly ever satisfied with my performance.
30. My family can get pretty upset when I don't do as well as they think I should.
31. My family hardly ever feels that what I've done is good enough.
32. When I don't meet my family's standards, it doesn't bother me.
33. My family thinks that people should do their best or don't bother.
34. According to my family, if I don't perform well, I don't let it get me down.
35. I am aware that my family sets standards that are unrealistically high.
36. My family usually feels pretty satisfied with what I do.
37. My family expects me to have a strong need to strive for excellence.
38. My family usually feels like what I have done is good enough.
39. My family often feels disappointment after I complete a task because they know I could have done better.

Appendix F

The Center for Epidemiological Studies-Depression Scale (CES-D; Radloff, 1977)

Using the scale below, circle the number which best describes how often you felt or behaved this way -- <u>DURING THE PAST WEEK</u>.

      0 = Rarely or none of the time (less than 1 day)
      1 = Some or a little of the time (1-2 days)
      2 = Occasionally or a moderate amount of time (3-4 days)
      3 = Most or all of the time (5-7 days)

1. I was bothered by things that usually don't bother me
2. I did not feel like eating; my appetite was poor
3. I felt that I could not shake off the blues even with help from my family or friends
4. I felt that I was just as good as other people
5. I had trouble keeping my mind on what I was doing
6. I felt depressed
7. I felt that everything I did was an effort
8. I felt hopeful about the future
9. I thought my life had been a failure
10. I felt fearful
11. My sleep was restless
12. I was happy
13. I talked less than usual
14. I felt lonely
15. People were unfriendly
16. I enjoyed life
17. I had crying spells
18. I felt sad
19. I felt that people disliked me
20. I could not get "going"

Appendix G

The Rosenberg Self-Esteem Scale (RSES; Rosenberg, 1965)

Directions: Respond to each of the items using the scale below to describe your degree of agreement with each item.

      1 = Strongly Disagree
      2 = Disagree
      3 = Agree
      4 = Strongly Agree

1. I feel that I am a person with worth, at least on an equal plane with others.
2. I feel that I have a number of good qualities.
3. All in all, I am inclined to feel that I am a failure.
4. I am able to do things as well as most other people.
5. I feel I do not have much to be proud of.
6. I take a positive attitude toward myself.
7. On the whole, I am satisfied with myself.
8. I wish I could have more respect for myself.
9. I certainly feel useless at times.
10. At times I think I am no good at all.

Appendix H

State-Trait Anxiety Inventory-Form Y (STAI; Spielberger, Gorsuch, & Lushene, 1970; Spielberger, 1983)

SELF-EVALUATION QUESTIONNAIRE

Form Y-1

DIRECTIONS: A number of statements which people have used to describe themselves are given below. Read each statement and then circle the appropriate number to the right of the statement to indicate how you feel right now, that is, at this moment. There are no right or wrong answers. Do not spend too much time on any one statement but give the answer which seems to describe your present feelings best.

Not At All   Somewhat   Moderately So Very Much So
   1   2   3   4

1. I feel calm………………………………………………………….. 1 2 3 4
2. I feel secure………………………………………………………… 1 2 3 4
3. I am tense…………………………………………………………... 1 2 3 4
4. I feel strained……………………………………………………...1 2 3 4
5. I feel at ease………………………………………………………1 2 3 4
6. I feel upset……………………………………………………….. 1 2 3 4
7. I am presently worrying over possible misfortunes…………….. 1 2 3 4
8. I feel satisfied……………………………………………………… 1 2 3 4
9. I feel frightened…………………………………………………… 1 2 3 4
10. I feel comfortable………………………………………………… 1 2 3 4
11. I feel self-confident……………………………………………… 1 2 3 4
12. I feel nervous……………………………………………………..1 2 3 4
13. I am jittery………………………………………………………… 1 2 3 4
14. I feel indecisive…………………………………………………… 1 2 3 4
15. I am relaxed………………………………………………………. 1 2 3 4
16. I feel content……………………………………………………… 1 2 3 4
17. I am worried……………………………………………………… 1 2 3 4
18. I feel confused…………………………………………………… 1 2 3 4
19. I feel steady……………………………………………………….. 1 2 3 4
20. I feel pleasant…………………………………………………….1 2 3 4

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Ph.D. Candidate in Counseling Psychology May 2010
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M.A. in Educational Psychology May 1997
Rutgers University
B.A. in Psychology and Women Studies May 1993

SCHOLARSHIPS
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New York University SEHNAP Scholarship, 1993-1994

COUNSELING EMPLOYMENT
Assistant Director of Clinical Services Dec 2008 – April 2009
New York Society for the Prevention of Cruelty to Children
Mental Health Counselor April 2005– July 2008
Healthy Connections-Lutheran Family Health Centers
Mental Health Clinician September 2003-April 2005
Alianza Dominicana Inc.
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Sunset Terrace -Lutheran Family Health Centers
Counselor Aug 1995– Aug 1999
Rutgers College Educational Opportunity Program

PRESENTATIONS/TRAININGS
Co-facilitated a Poster Presentation: "Complex Adaptation to Trauma as it relates to Immigrants particularly those dealing with Domestic Violence", International Trauma Conference, Boston, MA, 2007
Co-facilitated a Presentation: "Complex Adaptation to Trauma as it relates to Immigrants particularly those dealing with Domestic Violence", Lutheran Family Health Centers, Brooklyn, NY, 2007
Co-facilitated a round table discussion: "Trauma, Domestic Violence, and Immigrants", International Counseling Psychology Conference, Chicago, IL, 2008
Co-facilitated a Workshop: "Trauma, Domestic Violence, and Immigrants", International Social Work Conference, Fordham Law School, NY, NY, 2008
Co-facilitated a Workshop for health providers: "Domestic Violence"- Sunset Terrace Lutheran Family Health Centers, Brooklyn, NY, 2008
Co-facilitated a Training for clinicians: "Interventions for treating Trauma", Center for Family Life, Brooklyn, NY, 2008

LANGUAGE SKILLS
Fluent in reading, speaking and writing in Spanish.