



**ETHNIC IDENTITY AND COVID-19 PSYCHOLOGICAL CONSEQUENCES: AN  
EVALUATION OF DISTRESS TOLERANCE AS A POTENTIAL MODERATOR  
AMONG LATINX PERSONS**

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## Abstract

**Background:** As a multifaceted disease, the COVID-19 virus has engendered a range of mental health consequences among Latinx. Ethnic identity has been established as a protective factor against negative mental health symptoms in prior-non COVID-19 work, but has not been evaluated within the COVID-19 context. Moreover, potential interpersonal factors such as distress tolerance may further inform the dynamic between ethnic identity and mental health symptoms occasioned by the COVID-19 virus among Latinx persons. To empirically evaluate these relationships, the moderating role of distress tolerance was evaluated between Latinx ethnic identity and COVID-19 related fear, sleep disturbance, and emotional vulnerability related to COVID-19. **Methods:** The current study sought to test the role of distress tolerance as a potential moderating factor between ethnic identity and COVID-19 related fear, emotional vulnerability, and sleep-related anxiety symptoms among 182 Latinx adult persons (70% male;  $M_{age} = 35.3$  years;  $SD = 9.36$ ; age range: 18–72 years). **Results:** Indeed, results were in line with expectations in that among Latinx individuals, ethnic identity worked synergistically with higher (versus lower) levels of distress tolerance to decrease risk across all four criterion variables. **Conclusions:** Overall, the current work provides initial empirical evidence that distress tolerance potentially mitigates the adverse psychological effects among Latinx persons during COVID-19.

Keywords: COVID-19, Latinx, COVID-19 Fear, Distress Tolerance

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## **Introduction**

Since the emergence of Coronavirus-19 in 2020 (hereafter referred to as COVID-19), Latinx persons have continued to be disproportionately represented in terms of COVID-19 infection, hospitalization, (Garcia et al., 2021), and “long-COVID” symptoms (i.e., persistent symptoms of COVID-19 for more than three months post infection; CDC, 2022; NIH, 2023). As a multifaceted disease, the COVID-19 virus has engendered a range of mental health consequences among Latinx (Garcia et al., 2021; Mayorga et al., 2021). Indeed, Latinx persons have endorsed worse COVID-19 related sleep quality compared to Asian Americans (Yip et al., 2021), and higher anxiety and depression symptoms compared to non-Latinx White individuals (Baxter et al., 2022). Within a study evaluating racial disparities on COVID-19 fear levels, Latinx respondents perceived the highest fear related to COVID-19 infection and mortality compared to Black Americans, Asian Americans, and non-Latinx White Americans (Kumar & Encinosa, 2021). It is of great clinical importance to establish empirical precedence for factors that are related to the both, the Latinx population and the salient COVID-19 psychological concerns that continue to affect Latinx persons, as this data can inform ongoing COVID-19 intervention.

One such factor that has been documented in terms of the Latinx population and mental health outcomes is ethnic identity. Ethnic identity is a cultural factor that reflects pride in one’s ethnic group and the extent to which an individual feels a sense of belongingness within the community (Phinney., 1990.). A large body of work has positioned ethnic identity as a resilience factor, related to lower depression and anxiety symptoms among Latinx (Perreira et al., 2019). Indeed, greater ethnic identity has been evidenced to mitigate the impact of discrimination on life satisfaction among Latinx immigrants within the United States (U.S.; Cobb et al., 2019). Ethnic

identity is related to *familismo*, in which the aspect of closeness to one's family/cultural group or host culture is a buffer against aversive mental health symptomology (i.e., depression, anxiety and psychological stress; Corona et al., 2017). Although previous evidence suggests that strong identification with one's culture of origin may act as a resilience, previously it has gone unexplored within this population during COVID-19. Investigation of ethnic identity among Asian Americans has demonstrated that stronger ethnic identity moderated the relationship between COVID-19 related discrimination and depression symptoms with higher levels of ethnic identity relating to lower depression symptoms (Litam & Oh, 2022). Therefore, endorsing a strong ethnic identity has been documented as an important psychological resource to mitigate negative COVID-19 related mental health outcomes among ethnic minorities as well (Litam & Oh, 2022). However, despite the theoretical applicability evidenced among other minority populations (Tao et al., 2022) to date, no work has evaluated the impact of ethnic identity on COVID-19 mental health outcomes among the Latinx population.

In order to fully understand the dynamic between ethnic identity and salient COVID-19 psychological outcomes, research is also needed to identify potential individualized factors that may influence this relationship. Distress tolerance, or one's perceived willingness and ability to withstand negative emotional states (Simons & Gaher, 2005) is one such mechanism. Across the general public, distress tolerance is linked to increased ability in coping with situations that are difficult or impossible to change, and higher levels of distress tolerance are linked to lower emotional vulnerability symptoms (eg., depression; (Williams et al., 2013). Moreover, lower levels of distress tolerance has been linked to higher levels of emotional volatility (Kyron & Hooke, 2021), greater sleep disturbances (Nomamiukor et al., 2018), and greater emotional distress when facing a stressor (McHugh et al., 2020). Unfortunately, a major limitation to this



work is that a dearth of studies have examined this construct within Latinx samples specifically. Of the work that exists, distress tolerance has been examined in relation between PTSD symptom severity and alcohol use motives, revealing that those with lower distress tolerance levels endorsed greater motivation to consume alcohol to cope with symptoms (McGrew et al., 2023).

Although distress tolerance is positioned as an individualized mechanism that promotes greater resilience in the face of major societal and natural disasters (Cohen et al., 2016; Marshall-Berenz et al., 2010), its influence has gone largely unexamined in the context of COVID-19 (Polizzi et al., 2020). Among Latinx persons, distress tolerance may work synergistically with ethnic identity to build greater resilience against COVID-19 psychological symptoms (e.g., sleep issues, fear, emotional vulnerability). Due to the large-scale impact of COVID-19 among the Latinx population, Latinx individuals may be greatly inclined to rely on, and immerse themselves within their familial and community resources (Garcini et al., 2022). As a result, it is likely that individuals are to internalize their ethnic identity to a greater degree and increase ethnic pride and social cohesion (UnidosUS, 2021). Overall, an individual can gain confidence in facing the challenges presented by COVID-19 alongside their cultural group (i.e., increased distress tolerance levels) and thereby endorse greater willingness to withstand discomfort brought by sleep disturbances, fear, and emotional vulnerability related to COVID-19.

Alternativley, it is important to consider a flexible theoretical understanding of these relationships. It is also possible that increased awareness of one's Latinx ethnic background (during a time when ethnically diverse individuals are at risk for greater COVID-19 ailment) can increase hopelessness in Latinx individuals and lower their confidence in their ability to withstand and cope with these symptoms, or receive aid if needed (Einvik et al., 2021). This can

in turn increase their susceptibility to experiences of sleep disturbances, emotional vulnerability, and increased fear (French & Chavez, 2010). Ultimately, it is important that scientific data provide support for these narratives. Investigation is needed to parse apart such nuanced dynamics in the aim of mapping COVID-19 related mental health resources for the Latinx population. With this background in mind, the current study sought to evaluate distress tolerance as a moderator between the association of ethnic identity and COVID-19 mental health outcomes. The current study sought to understand a more nuanced conceptualization of these relationships and accounted for the influence of related covariates that include: age (Wilson et al., 2021), gender (Prowse et al., 2021), education (Daly, 2020) and years living in the United States (Boserup et al., 2020).

## **Methods**

### **Participants**

The current sample included 318 Latinx adults (70% male;  $M_{\text{age}} = 35.3$  years;  $SD = 9.36$ ; age range: 18–65 years) recruited from amazon mechanical Turk, an online data collection platform, from June 2020, till June 2021. The current sample reflects a subset of data collected from a larger COVID-19 Latinx study (Mayorga et al., 2021). Eligibility criteria included being between 18 and 65 years old, self-identifying as Latinx, Latino, or Hispanic ethnic background, being able to provide informed consent, and demonstrating English proficiency (to ensure comprehension of all study material).

The present study consisted of predominantly Latinx White individuals 55%, followed by 23.6 % Latinx Black/African American, 8.3% identified as other, 5.1% identified with more than one race, 4.2% as Latinx Asian, 1.6% declined to state, 1.3% as Latinx Alaska Native or American Indian and 1% as Latinx Native Hawaiian or other Pacific Islander. As for highest

level of education, 59.7% of participants have a bachelor's degree, 26.5% have a master's degree, followed by 5.4% who have completed some college, 3.8% have an associate degree, and 3.2% have a high school degree or equivalent, 1% reported attaining a doctoral degree, and 0.3% completed some high school. Only 2.2% of individuals from the current sample were not born in the United States.

## Measures

*Demographic Questionnaire.* The demographic questionnaire collects basic information on gender, age, self-identification of ethnicity, and highest level of education completed. Age (Wilson et al., 2021), gender (Prowse et al., 2021), highest level of education (Daly, 2020) and years living in the United States (Boserup et al., 2020) will be controlled as covariates.

*Multigroup Ethnic Identity Measure (MEIM)* (Phinney, 1992). The MEIM is a self-report questionnaire that is comprised of two subscales: Ethnic identity (EI) and Other-Group Orientation. Each item is scored on a 4-point scale ranging from *Strongly Disagree* to *Strongly Agree*. The present study utilized the brief 14 item version of the original MEIM in which 3 items were reverse scored (e.g., "I really have not spent much time trying to learn more about the culture and history of my ethnic group)." MEIM has shown good psychometric properties in past work and adequate internal validity within the current sample ( $\alpha = 0.76$ ).

*Distress Tolerance Scale- Short Form (DTS\_SF)* (Garner et al., 2018). Distress Tolerance Scale- Short Form is a brief 3-item measure, that assesses an individual's tolerance for stress inducing situations. Items are rated from a scale of 1 (strongly agree) to 5 (strongly disagree), with higher scores indicating higher tolerance. DTS-Short Form has shown good psychometric properties in past work (Marshall-Berenz et al., 2010) and good internal reliability within the current sample ( $\alpha = 0.87$ ).

*Fear of Coronavirus-19 Scale (FOCS)*. The Fear of Coronavirus-19 scale (Ahorsu et al., 2020) is a 7-item self-report measure that assesses the severity of an individual's fear regarding COVID-19. Items are rated on a scale from 1 (Strongly disagree) to 5 (Strongly agree) and a sum of scores is calculated to indicate level of fear due COVID-19. Higher scores are indicative of greater self-reported fear levels. This measure has demonstrated strong psychometric properties in previous work amongst Latinx during COVID-19 (Mayorga & Manning, 2021) and similarly, demonstrated good internal reliability within the current sample ( $\alpha = 0.89$ ).

*Emotional Impact of COVID-19 (EI)* (Schmidt et al., 2021). The Emotional Impact of COVID-19 is a 12-item measure that assesses the impact of COVID-19 on an individual's emotional state. Individuals are asked to rate their emotions (fear, anger, sadness, and loneliness) based on the impact of the COVID-19 outbreak, social distancing guidelines and economic impact of COVID-19 on their life. Higher scores reflect higher emotional impact due to COVID-19. This measure indicates strong psychometric properties across work conducted among Latinx persons (Mayorga & Manning, 2021) and similar levels of internal reliability within the current work ( $\alpha = 0.95$ ).

*Anxiety Related Sleep Disturbance (ARSD)*. The Anxiety Related Sleep Disturbances measure has 7 self-report items that assess severity of anxiety symptoms and quality of sleep for individuals. Participants rank each item from 1(never true) to 5(very often true), with higher score indicating more severe symptoms and poorer quality of sleep. The measure has demonstrated strong psychometric properties in the past (Mayorga et al., 2021), and within the current sample, demonstrated ( $\alpha = 0.84$ ).

## **Procedures**

Participants were recruited across the United States (U.S) through Amazon Mechanical Turk (Mturk) between the months of June 2020 and July 2021. Mturk is an online survey management system that has been found to be a reliable platform in collecting valid and representative data. All participants provided informed consent prior to completing the online self-report survey. Quality assurance safeguards were included to ensure collection of valid data, including recruiting individuals who had never been removed from a study, had an average completion rate of 90% on other studies, and passed a Human Intelligence Test (HIT). After completing the Qualtrics survey, participants were compensated \$4.00 of credit towards their Mturk account. This study protocol was approved by the Institutional Review Board.

### **Analytic Strategy**

Analysis was conducted through SPSS using the PROCESS macro for moderation. The dichotomized DTS score indicated low (0) and high (1) distress tolerance. Scores were dichotomized as “low” if DTS mean was less than 4 and categorized as “high” if mean was 4 or higher (Liu et al., 2020). In all analysis, Fear of Coronavirus-19, Emotional Impact of COVID-19, and Anxiety Related Sleep Disturbances due to COVID-19 were entered individually as the criterion variable. In all analysis, MEIM was entered as the predictor variable and DTS was entered as a moderator (W) to examine the extent in which distress tolerance moderated the association between having a strong ethnic identity and COVID-19 related psychological factors.

### **Results**

Descriptive statistics and bivariate correlations are presented in table 1. MEIM was significantly and positively related to Anxiety Related Sleep Disturbances ( $r = .20, p < .001$ ), Emotional Impact of Coronavirus-19 ( $r = .30, p < .001$ ), and Fear of Coronavirus- 19 ( $r = .28, p < .001$ ).

## Primary Analyses

Regarding Fear of COVID, covariates entered in the first step accounted for significant amount of variance ( $F [4, 308] = 5.88, p < .001, R^2 = 0.071$  see Table 2). Moreover, level of education emerged as a significant correlate. Step two was also statistically significant in terms of predicting fear of COVID ( $\Delta R^2 = .080, p < .001$ ), and level of education emerged as a significant correlate in terms of fear of COVID-19. Step three accounted for significantly more variance in the criterion ( $\Delta R^2 = .025, p = .002$ ). As predicted, there was a significant interaction between ethnic identity and distress tolerance in predicting fear of COVID. Specifically, ethnic identity was significantly related to increased fear of COVID-19 among individuals with low levels of distress tolerance ( $b = 6.16, SE = 1.02, t = 6.04, p < .001$ ) but not high levels. See Table 2 for parameter estimates.

In predicting emotional impact of COVID-19, step one evaluated all covariates to determine any main effects ( $F [4, 308] = 6.33, p < .001, R^2 = .076$  (see Table 2). Education was the only covariate that resulted as a significant predictor. Step two accounted for greater variance among the emotional impact of COVID-19 ( $\Delta R^2 = .081, p < .001$ ). A significant main effect emerged for ethnic identity. Once again, level of education resulted as the only significant predictor. Step three accounted for significantly more variance in the criterion variable ( $\Delta R^2 = .033, p < .001$ ). As expected, there was a significant interaction of ethnic identity and distress tolerance in predicting emotional impact of COVID-19 among Latinx individuals. Specifically, ethnic identity was significantly related to increased emotional impact of COVID-19 among individuals with low levels of distress tolerance ( $b = 26.16, SE = 3.92, t = 6.66, p < .001$ ) but not high levels. See Table 2 for parameter estimates.

Regarding anxiety sleep disturbances, covariates entered in the first step did account for significant amount of variance ( $F [4, 305] = 3.47, p = .009, R^2 = .044$  see Table 2). Level of education emerged as a statistically significant correlate of the criterion variable. Step two accounted for significantly more variance in anxiety related sleep disturbances due to COVID-19 ( $\Delta R^2 = .056, p < .001$ ). A significant main effect emerged for both ethnic identity and distress tolerance. Once more, highest level of education was the only significant correlate. Step three accounted for significantly more variance in the criterion ( $\Delta R^2 = .021, p = .007$ ). As expected, there was a significant interaction of ethnic identity and distress tolerance in predicting anxiety sleep disturbance due to COVID-19 among Latinx individuals. Specifically, ethnic identity was significantly related to increased sleep disturbances due to COVID-19 among individuals with low levels of distress tolerance ( $b = 5.20, SE = 1.16, t = 4.46, p < .001$ ) but not high levels. See Table 2.

## Discussion

The current work investigated the role of distress tolerance as a potential moderation factor in relation to high levels of ethnic identity and various salient COVID-19 variables (i.e., COVID-19 related fear, emotional vulnerability, and sleep disturbances) among Latinx persons. To our knowledge, this is the first work to evaluate distress tolerance levels within the context following the emergence of the COVID-19 pandemic. Results emerged over and above the influence of theoretically related covariates.

Results emerged partially in line with expectation in that distress tolerance did in fact emerge as a statically significant moderation factor between high ethnic identity and COVID-19 related mental health outcomes. However, in opposition to prior non-COVID-19 work that posited ethnic identity as a protective factor, there was a positive relationship that emerged for

high ethnic identity and COVID-19 related fear, emotional vulnerability, and anxiety-related sleep disturbances (Serrano-Villar & Calzada, 2016). This work provided a more nuanced approach to conceptualization of ethnic identity in that within the context that being of Latinx background carries potential risk of infection, higher awareness of risk status carries negative consequences. It may be that such heavy media representation during the height of COVID-19, presenting Latinx persons as “high risk” (Chang et al., 2021), carried significant impact on levels of hope for aid, resources, and adequate care if hospitalized (Jamieson et al., 2021). Ongoing work is needed to continue to understand what potential underlying factors may be at play that link high ethnic identity to worse mental health (e.g., hopelessness; perceived discrimination). Overall, distress tolerance is an evidenced transdiagnostic factor across the general population (Leyro et al., 2010), and therefore the current data position distress tolerance as a mechanism by which to center COVID-19 intervention for Latinx mental health concerns moving forward.

Clinically, the data indicates that individuals with high ethnic identity are at risk for worse COVID-19 mental health outcomes when distress tolerance levels are low (compared to high). In efforts to combat the COVID-19 disparities affecting Latinx individuals, health care professionals should consider creating culturally relevant interventions that recognize the multidirectional aspect of ethnic identity (as both a protective and risk factor) and develop interventions that promote greater ethnic pride while increasing awareness of (and addressing) the potential fear contextualized in being of Latinx ethnic background during COVID-19. Aspects of Acceptance and Commitment Therapy can be used to reduce the impact of anxiety related sleep disturbances and fear levels (Yip et al., 2021). Introducing adaptive coping mechanisms to reduce the emotional impact (ex: exercises to regulate emotional distress; Dialectical Behavior Therapy; McKay et al., 2019). Future studies should focus on looking at the



association between ethnic identity and mental health outcomes longitudinally, to understand the potential shifts post pandemic.

These data should be interpreted considering the following limitations. Firstly, inclusion criteria included individuals who were proficient in English, therefore excluding a large percentage of Latinx persons who speak Spanish and limiting the generalizability of results (Krogstad & Gonzalez-Barrera, 2015). Future studies should provide measures in both English and Spanish. Secondly, the current sample is a highly educated which once again, limits the representation of the population. Future studies should consider gathering a more representative sample. Thirdly, data collection was conducted during the height of the COVID-19 pandemic, restricting the interpretation of results in terms of the disproportionate long covid rates affecting Latinx individuals. Studies should consider targeting this specific population. Fourthly, self-report questionnaires were utilized to gather participant data. Self-report questionnaires are susceptible to social desirability bias, therefore limiting the reliability of the data. Other studies should consider administering clinical structural interviews to increase reliability of data collection. Lastly, this study collected cross sectional data, limiting the interpretation on causality and directionality that can be made across variables.

Overall, the current study sought to evaluate distress tolerance as a potential moderator between the association of ethnic identity and COVID-19 related mental health outcomes. Among Latinx persons with high ethnic identity, increasing levels of distress tolerance may be of clinical utility to mitigate the effects of COVID-19 related fear, anxiety related sleep disturbances, and emotional vulnerability.

Table 1: Bivariate correlations among variables

	1	2	3	4	5	6	7	8	9
1 Age	--								
2 Gender	.03	--							
3 Education Level	-.001	-0.06	--						
4 Years Living in U. S	.10	0.06	.001	--					
5 DTS	.09	0.11	0.01	0.03	--				
6 MEIM	.02	-0.06	0.08	0.08	0.08	--			
7 ARSD	.07	0.02	.20***	-0.02	-.11*	.20***	--		
8 EI	.03	-0.06	.26***	-0.01	-0.04	.30***	.58***	--	
9 Fear of Coronavirus	.06	-0.03	.27***	0.03	-0.08	.28***	.73***	.69***	--

**Note:** N = 318; \*\*\* p < .001, \*\* p < .01, \* p < .05. ; Gender: 0= Male, 1 = Female, 2= Transgender, 3=Gender non-confirming; Education Level: 1 = Some high school to 7 = Doctoral degree; Years in the United States (U.S); MEIM= Multigroup Ethnic Identity Measure (Phinney, 1992); DTS = Distress Tolerance Scale- Short Form (Garner et al., 2018); Anxiety Related Sleep Disturbance (ARSD; Mayorga et al., 2021); Emotional Impact of COVID-19 (Schmidt et al., 2021); Fear of Coronavirus- 19 Scale (Ahorsu et al., 2020)



Table 2: Moderation Results of Distress Tolerance on Criterion Variables

<i>Model 1: Fear of COVID-19</i>						
	<i>b</i>	<i>SE</i>	<i>t</i>	<i>p</i>	<i>sr<sup>2</sup></i>	<i>R<sup>2</sup> Change</i>
<b>Step 1</b>						.071
Age	.000	.000	1.27	0.21	.0003	
Gender	0.23	0.66	0.34	0.73	.0004	
Education Level	1.72	0.34	5.04	.000	0.07	
Years in the United States	-.0004	0.03	-.013	.989	.0007	
<b>Step 2</b>						.079
MEIM	6.16	1.02	6.04	.000	.071	
DTS	15.8	5.68	2.78	.006	.012	
<b>Step 3</b>						.025
MEIM * DTS	-5.72	1.85	-3.09	.002	.025	
<i>Model 2: Emotional Impact of COVID-19</i>						
	<i>b</i>	<i>SE</i>	<i>t</i>	<i>P</i>	<i>sr<sup>2</sup></i>	<i>R<sup>2</sup> Change</i>
<b>Step 1</b>						.076
Age	.000	.000	.809	.419	.001	
Gender	-.276	2.55	-.108	.914	.002	
Education Level	6.29	1.31	4.81	.000	.066	
Years in the United States	-.096	.105	-.915	.361	.0003	
<b>Step 2</b>						.081
MEIM	26.2	3.92	6.67	.000	.080	
DTS	77.9	21.9	3.56	.0004	.004	
<b>Step 3</b>						.033
MEIM * DTS	-26.7	7.11	-3.75	.0002	.037	
<i>Model 3: Anxiety Related Sleep Disturbances</i>						
	<i>b</i>	<i>SE</i>	<i>t</i>	<i>p</i>	<i>sr<sup>2</sup></i>	<i>R<sup>2</sup> Change</i>
<b>Step 1</b>						.047
Age	.000	.000	1.48	.140	.004	
Gender	.980	.756	1.30	.195	.001	
Education Level	1.43	.387	3.69	.0003	.042	
Years in the United States	-.027	.031	-.861	.390	.0008	
<b>Step 2</b>						.056
MEIM	5.20	1.17	4.46	.000	.038	
DTS	14.3	6.47	2.22	.027	.020	
<b>Step 3</b>						.021
MEIM * DTS	-5.44	2.11	-2.59	.010	.019	

**Note:** N = 318; \*\*\* p < .001, \*\* p < .01, \* p < .05. ; Gender: 0= Male, 1 = Female, 2= Transgender, 3=Gender non-confirming; Education Level: 1 = Some high school to 7 = Doctoral degree; Years in the United States (U.S); MEIM= Multigroup Ethnic Identity Measure (Phinney, 1992); DTS = Distress Tolerance Scale- Short Form (Garner et al., 2018); Anxiety Related Sleep Disturbance (Mayorga et al., 2021); Emotional Impact of COVID-19 (Schmidt et al., 2021); Fear of Coronavirus- 19 Scale (Ahorsu et al., 2020)

Figure 1

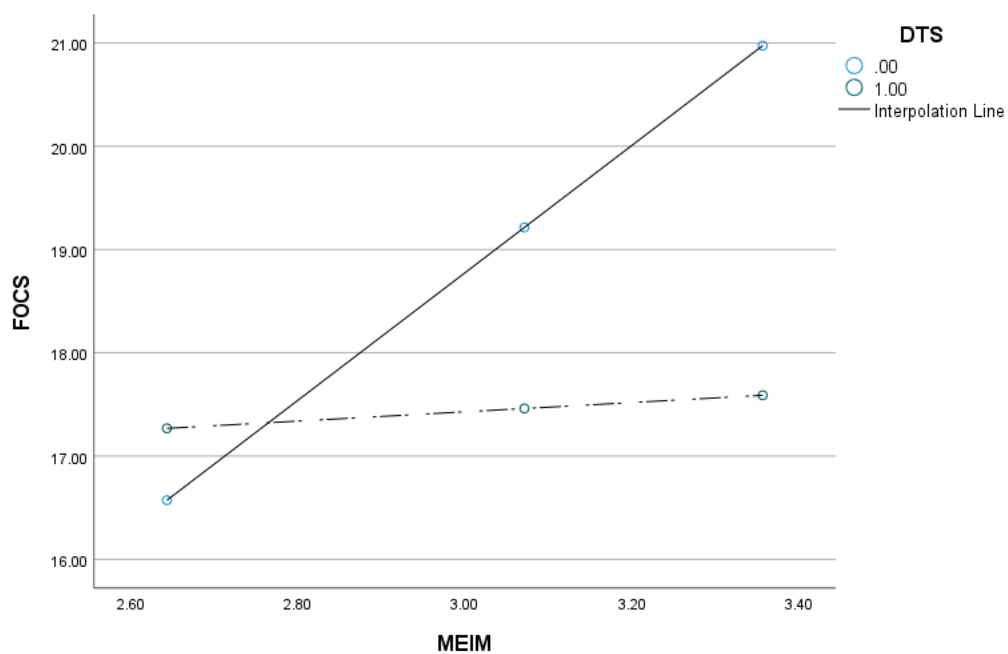


Figure 2

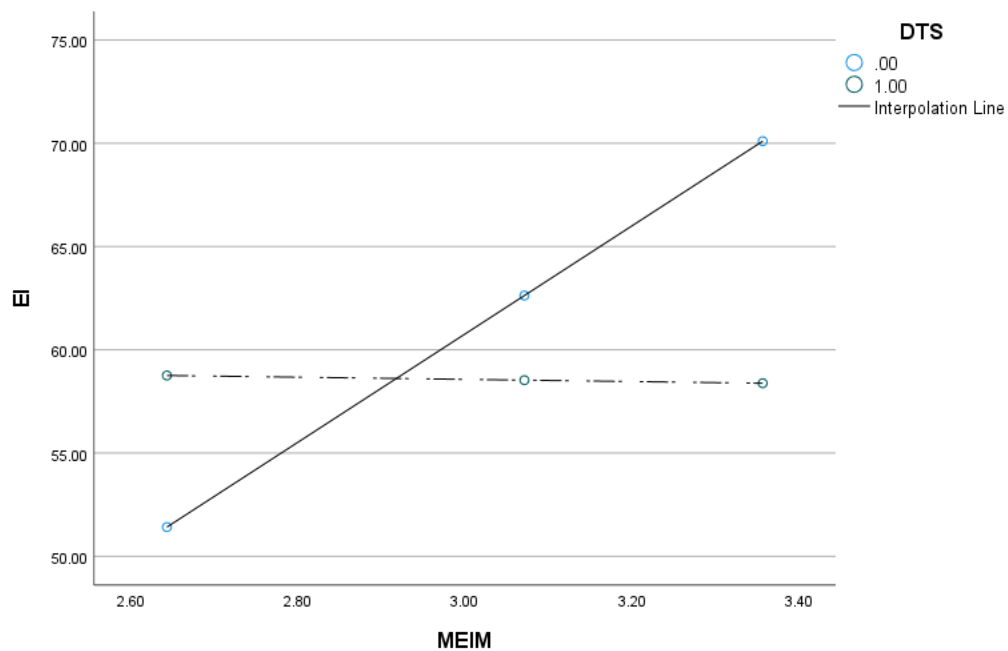
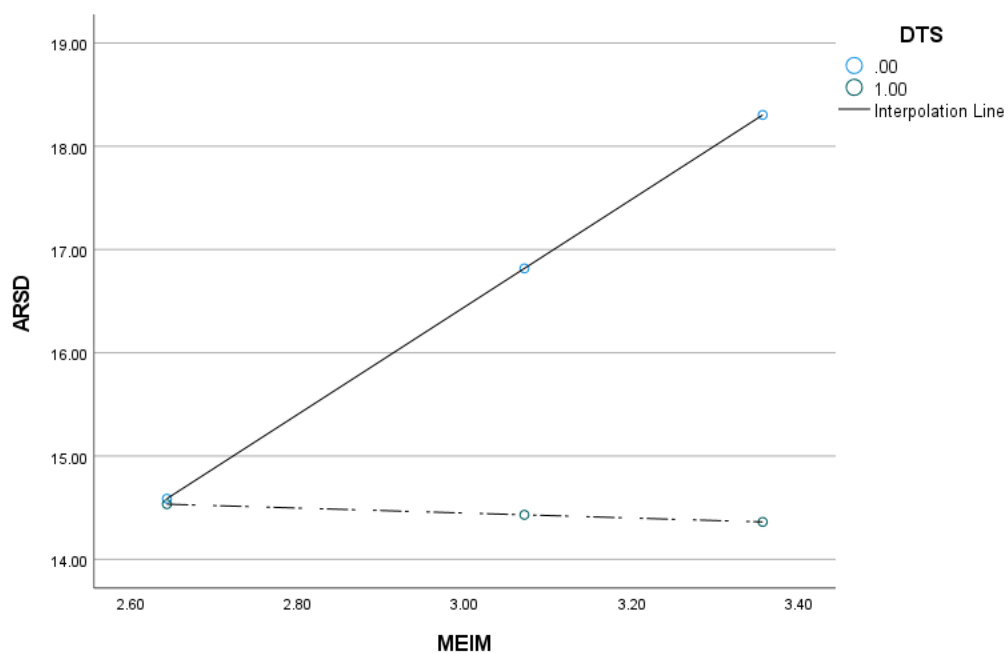


Figure 3



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