Attitudes and Experiences During the Coronavirus Pandemic

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COVID-19 and Mental Health

► Subjective wellbeing, positive affect, and life satisfaction decreased during the pandemic compared to prior to the pandemic in New Zealand (Sibley et al., 2020) and Germany (Zacher & Rudolph, 2021).

► Government mandated lockdowns in the U.S. predicted lower levels of belonging and higher levels of loneliness (Gratz et al., 2020).

What We Learned From Past Outbreaks

- 2003 severe acute respiratory syndrome (SARS) associated with higher levels of depression and anxiety (Main et al., 2011)

  - Lower levels of wellbeing (Moallef et al., 2021) and higher levels of PTSD (Mak et al., 2009) lasted for years after the SARS epidemic.

- Ebola (Keita et al., 2017), the Zika virus (Kotzky et al., 2019), and MERS (Son et al., 2019), and H1N1 (swine flu; Page et al., 2011) all yielded similar results.

Need-Threat Model of Social Exclusion

- ▶ Reflexive stage:
  - ▶ Decreases in the fundamental four:
    - ▶ Belonging, control, meaningful existence, and self-esteem (Hartgerink et al., 2015; Leiro, & Zwolinski, 2014; Williams, 2007)
  - ▶ Frustration, sadness, and anger (Williams, 2007)
  - ▶ Unethical behavior (Kouchaki & Wareham, 2015)

Social Exclusion/Rejection Event

1. Reflexive Stage

2. Reflective Stage

3. Resignation Stage

Need-Threat Model of Social Exclusion

- Reflective stage (Williams, 2007):
  - Implementation of coping mechanisms
  - Normalization of the fundamental four
- Resignation stage (Williams, 2007):
  - Prolonged and repeated social exclusion
  - heightened levels of depression and hopelessness

Social Exclusion/Rejection Event

1. Reflexive Stage

2. Reflective Stage

3. Resignation Stage

Social Support

- The support one receives from their friends and community
- More positive outcomes in the face of:
  - Acts of terror (Weinberg, 2017)
  - Racial discrimination (Seawell et al., 2014)
- Strong online social support predicts higher self-esteem (Chiu et al., 2015)
- Social support in a disaster (Kaniasty, 2020):
  - Stage 1: increase in social support and comradery
  - Stage 2: return to normal

Social Identity

- One's sense of self derived from group memberships (Tajfel & Turner, 1979)

- Predictor of aspects of the fundamental four such as self-esteem (Cameron, 1999; Kaye et al., 2019; Simsek, 2011)
  - Strong group ties associated with higher levels of self-esteem which is associated with higher levels of life satisfaction within university students

- Social Identity Model of Collective Psychosocial Resilience (SIMCCR; Drury, 2018; Williams & Drury, 2009)
  - Common events lead to a shared social identity

Ethnic Identity

- One's sense of belonging to their culture (Phinney & Ong, 2007)
- Associated with
  - Higher subjective mental health (Ai et al., 2014)
  - Lower psychological distress (Willis & Neblett, 2020)
- Similar findings across U.S. ethnic minority groups
  - African Americans (Ajibade et al., 2016)
  - Arab Americans (Atari & Han, 2018)
  - Asian Americans (Iwamoto & Liu, 2010)
  - Latinx Americans (French & Chavez, 2010).

Present Study

- Test three hypotheses with a Danish and U.S. sample

  1. COVID-19 stress would predict lower levels in the fundamental four (belongingness, self-esteem, control, and meaningful existence) during the pandemic.

  2. Social support would act as a mediator between COVID-19 stress and negative mental health outcomes.

  3. Social identity and ethnic identity would mediate the relationship between COVID-19 stress and mental health outcomes.

Participants (*N* = 327)

- *n* = 200
- Age: *M* = 20.70, *SD* = 3.55
- Gender:
  - Woman: 78.5%
  - Man: 21.0%
  - Other/Prefer not to say: 0.5%
- Ethnicity:
  - Latinx: 32.3%
  - AAPI: 24.7%
  - White: 15.7%
  - Black/African American: 9.6%
  - Other/Multiethnic: 17.7%

- *n* = 127
- Age: *M* = 23.92, *SD* = 3.47
- Gender:
  - Woman: 74.6%
  - Man: 23.0%
  - Other/Prefer not to say: 2.4%
- Ethnicity:
  - Danish: 44.8%
  - White/Caucasian: 41.6%
  - Other/Multiethnic: 13.6%

Materials

- Multigroup Ethnic Identity Measure – Revised (Phinney & Ong, 2007)

- COVID Stress Scale (CSS; Taylor et al., 2020a; Taylor et al., 2020b)

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

- General Belongingness Scale (GBS; Malone et al., 2012)

- Revised Autonomy Scale (Ford & Wooldridge, 2012)

- Fulfilment Scale (FS; Luthar & Ciciolla, 2015)

- Life Satisfaction Measure (LS; Walen & Lachmen, 2000)

- Reduced Multidimensional Scale of Perceived Social Support (R-MSPSS; Porter et al., 2019)

- Psychological Wellbeing Scale (PWS; Ryff & Keyes, 1995)

- Social and Personal Identities scale (SIPI; Nario-Redmond et al., 2004)

Data Analysis

- Bayesian structural equation modeling (BSEM):
  - Combination of diffuse, weakly informative, and informative priors
- Model fit measures (Garnier-Villarreal & Jorgensen, 2020):
  - posterior predictive p-value (PPP)
  - Bayesian gamma-hat
  - Bayesian root mean square error of approximation (BRMSEA)
- Tests of mediation (Miočević et al., 2018):
  - Controlled direct effect (CDE)
  - Pure natural indirect effect (PNIE)
  - Total natural indirect effect (TNIE)

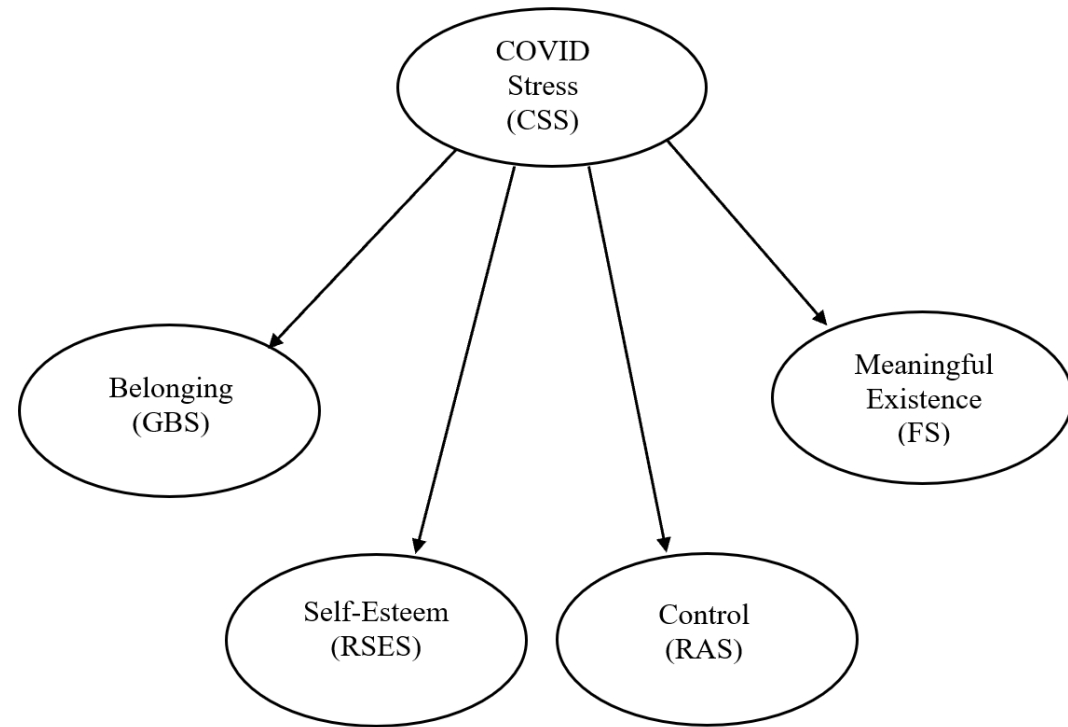# COVID-19 Stress and the Fundamental Four

- ▶ Hypothesis:
  - ▶ COVID-19 stress would predict lower levels in the fundamental four.
- ▶ Model fit:
  - ▶ U.S.: PPP < .001, BRMSEA = .08, Bayesian gamma-hat = .83
  - ▶ Denmark: PPP < .000, BRMSEA = .08, Bayesian gamma-hat = .83

Figure 1

Path model for hypothesis one.

Note. Parentheses contain the names of the scales that represent the latent variable. CSS = COVID Stress Scale; GBS = General Belongingness Scale; RAS = Revised Autonomy Scale; FS = Fulfilment Scale.

COVID-19 Stress and the Fundamental Four

- U.S.:
  - Belonginess (posterior mean = -.327, 95% CI [-.622, -.046])
  - Self-esteem (posterior mean = -.202, 95% CI [-.338, -.077])

- Denmark:
  - Self-esteem (posterior mean = -.527, 95% CI [-.870, -.223])

COVID-19 Stress and the Fundamental Four

- Hypothesis:
  - COVID-19 stress would predict lower levels in the fundamental four.
- Partial support:
  - COVID stress does not uniformly predict the fundamental four
  - NTM research focuses on ostracism
  - NTM research is mostly lab-based
- Meaningful findings:
 - Both samples had lower levels in self-esteem which suggests the pandemic has a direct effect on mental health.

COVID-19 Stress and Mental Health Outcomes through Social Support

► Hypothesis:

    ► Social support would act as a mediator between fear of the Coronavirus and negative mental health outcomes.

► Model fit:

    ► PPP < .001, BRMSEA > .08, Bayesian gamma-hat < .80

Figure 2

Path model for hypothesis two.
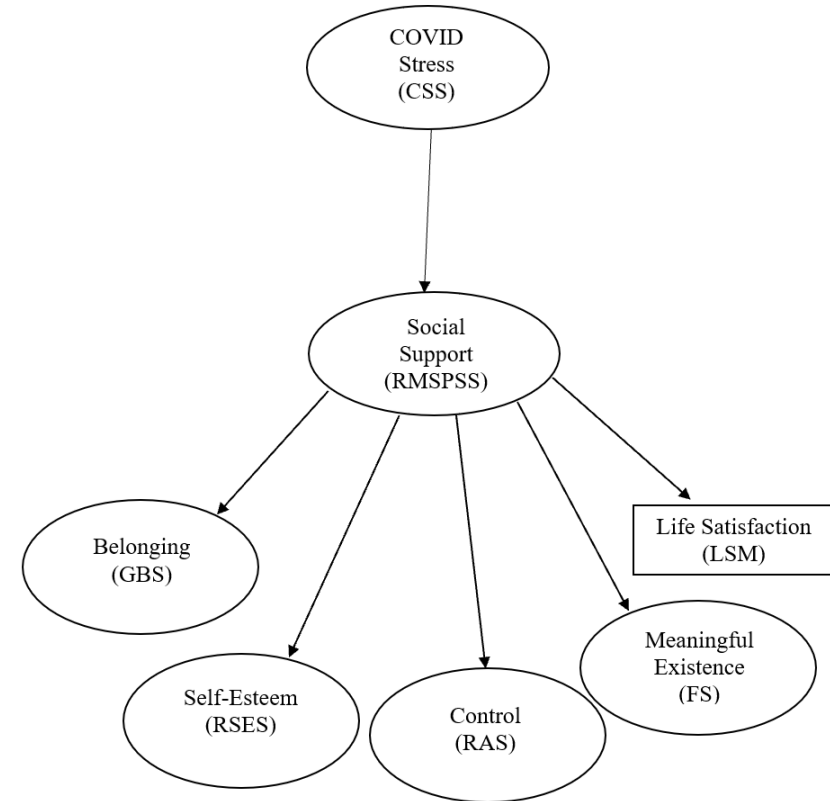
Note. Parentheses contain the names of the scales that represent the latent variable. CSS = COVID Stress Scale; GBS = General Belongingness Scale; RAS = Revised Autonomy Scale; FS = Fulfilment Scale; RMSPSS = Reduced Multidimensional Scale of Perceived Social Support; LSM = Life Satisfaction Measure.

COVID-19 Stress and Mental Health Outcomes through Social Support

- Hypothesis:
  - Social support would act as a mediator between fear of the Coronavirus and negative mental health outcomes.

- No support:
  - High levels of misfit suggest social support does not mediate the relationship.
 - Prior research suggest social support is associated with mental health during a lockdown (Grey et al., 2020).

COVID-19 Stress and Mental Health Outcomes through Social Identity

▶ Hypothesis:

    ▶ Social identity and ethnic identity would mediate the relationship between fear of the Coronavirus and negative mental health outcomes.

▶ Model fit:

    ▶ U.S.: PPP < .001, BRMSEA = .07, Bayesian gamma-hat = .80

Figure 3

Path model for hypothesis three with social identity as a mediator.
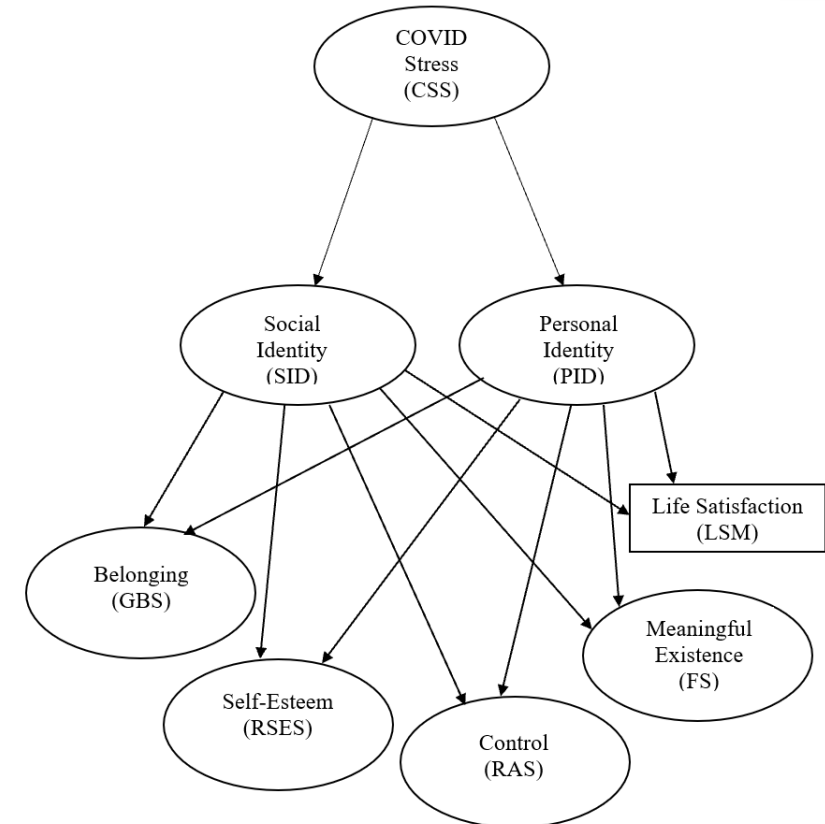
Note. Parentheses contain the names of the scales that represent the latent variable. CSS = COVID Stress Scale; GBS = General Belongingness Scale; RAS = Revised Autonomy Scale; FS = Fulfilment Scale; SID = Social Identity; PID = Personal Identity; LSM = Life Satisfaction Measure.

COVID-19 Stress and Mental Health Outcomes through Social Identity

- COVID stress:
  - Belongingness (posterior mean = -.406, 95% CI [-.727, -.109])
  - Self-esteem (posterior mean = -.216, 95% CI [-.363, -.084])
  - Life satisfaction (posterior mean = -.460, 95% CI [-.831, -.104])
  - Social identity (posterior mean = .118, 95% CI [.032, .289])
- Personal identity:
  - Belongingness (posterior mean = 2.64, 95% CI [0.835, 5.202])
  - Self-esteem (posterior mean = 1.423, 95% CI [0.497, 2.681])
  - Control (posterior mean = 1.559, 95% CI [0.539, 2.973])
  - Meaningful existence (posterior mean = 1.922, 95% CI [0.704, 3.580])
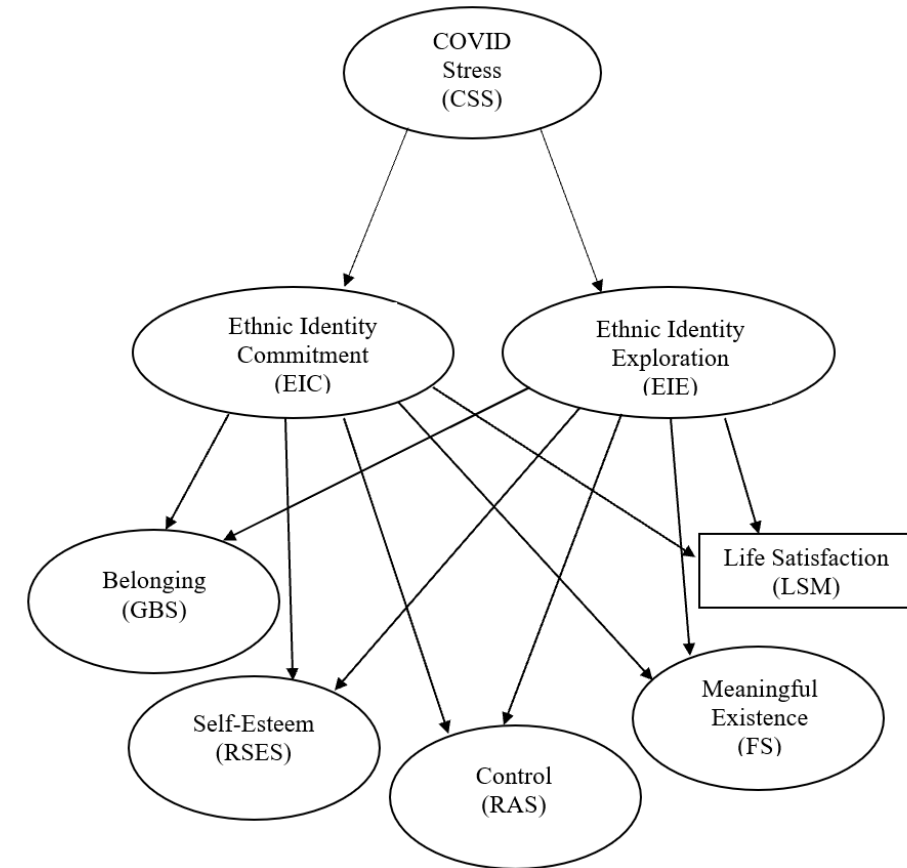 - Life satisfaction (posterior mean = 3.630, 95% CI [1.263, 6.827])

COVID-19 Stress and Mental Health Outcomes through Ethnic Identity

▶ Hypothesis:

    ▶ Social support would act as a mediator between fear of the Coronavirus and negative mental health outcomes.

Figure 4

Path model for hypothesis three with ethnic identity as a mediator.

Note. Parentheses contain the names of the scales that represent the latent variable. CSS = COVID Stress Scale; GBS = General Belongingness Scale; RAS = Revised Autonomy Scale; FS = Fulfilment Scale; LSM = Life Satisfaction Measure.

COVID-19 Stress and Mental Health Outcomes through Ethnic Identity

▶ U.S.:
  ▶ Model fit: PPP < .001, BRMSEA = .08, Bayesian gamma-hat = .82
▶ COVID stress:
  ▶ Ethnic identity exploration (posterior mean = .306, 95% CI [.118, .520])
  ▶ Ethnic identity commitment (posterior mean = .220, 95% CI [.012, .444])
▶ Ethic identity exploration:
  ▶ Meaningful existence (posterior mean = .195, 95% CI [.023, .379])
▶ Ethnic identity commitment:
  ▶ Belongingness (posterior mean = .510, 95% CI [.195, .842])
  ▶ Self-esteem (posterior mean = .188, 95% CI [.049, .330])
  ▶ Meaningful existence (posterior mean = .167, 95% CI [.001, .339]).

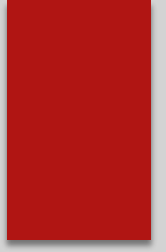# COVID-19 Stress and Mental Health Outcomes through Identity

- Hypothesis:
  - Social identity and ethnic identity would mediate the relationship between fear of the Coronavirus and negative mental health outcomes.
- No support
  - The hypothesis was not supported for all mediators
  - Social identity research in Denmark focuses on ethnic minority groups (e.g., Buckser, 1999; Dinesen, 2009; Valentin, 2015)
  - Differences in the conception of social identity within the two nations could explain high levels of misfit within the Danish sample
  - Emotion regulation may be a better mediator (Hu et al., 2014)

Limitations, Future Directions, and Conclusion

- Limitations and future directions
  - COVID Stress Scale
  - Early in the pandemic
  - Continue to explore the impact of COVID-19
- Conclusion
  - COVID-19 pandemic's effect on mental health through the Need-Threat Model.
  - COVID stress significantly predicted lower levels in participants' sense of belonging, self-esteem, and life satisfaction.
  - Results can inform clinicians, university administrators, and researchers.

Questions and comments?