

Petrona Gregorio-Pascual, M.A.

Conference: Society of Behavioral Medicine

Abstract title: *Mediation Analyses: Application of the Theory of Planned Behavior Constructs on Sugar-Sweetened Beverage Consumption*

Award: 2020 Special Interest Group (SIG) Awards: **Student/Trainee Abstract Award Winner in the Theories and Techniques of Behavior Change Interventions Special Interest Group**

Link: <https://www.sbm.org/UserFiles/file/SIGAwardWinners.pdf>

Each year the Society of Behavioral Medicine Conference recognizes a recipient(s) for each of their Special Interest Group (SIG). The Theories and Techniques of Behavior Change Interventions Special Interest Group received 8 accepted abstract presentations that used or applied theories and/or techniques. Ten judges blindly rated the 8 abstracts and selected on winner and two finalists. This year the Student/Trainee awarded Petrona Gregorio-Pascual as the for her abstract submission entitled, "*Mediation Analyses: Application of the Theory of Planned Behavior Constructs on Sugar-Sweetened Beverage Consumption.*" The research study written in this abstract was part of Petrona's master thesis which she applied the theory of planned behavior (TPB) constructs (attitudes, subjective norms, perceived behavioral control) in three interventions aimed at decreasing sugar-sweetened beverage consumption among college students at CSU San Marcos and UC San Diego. Petrona Gregorio-Pascual is a doctoral student at San Diego State University/UC San Diego in JDP in Public Health, Health Behavior track. For this award, Petrona was provided a certificate and \$500.

Petrona Gregorio-Pascual & Heike Mahler

Mediation Analyses: Application of the Theory of Planned Behavior Constructs on Sugar-Sweetened Beverage Consumption

In this study we examined whether any obtained effects of three interventions, based on the Theory of Planned Behavior (TPB), on sugar sweetened beverage (SSB) consumption would be mediated by corresponding effects of the interventions on the three primary TPB cognitions (i.e., attitudes, subjective norms, perceived behavioral control [PBC]). Undergraduates (N = 430) were randomly assigned to condition in a 2 (SSB risks information vs control) x 2 (SSB consumption norms information vs no information) x 2 (SSB reduction planning task vs control) factorial design. Immediately following the interventions, participants' SSB reduction attitudes, subjective norms, and PBC were assessed. SSB consumption intentions and behavior were assessed at an unannounced 2-week follow-up. In any instance where one of the three interventions (i.e., risks, norms, planning task) affected both the dependent variable (i.e., intentions or behavior) and one of the proposed mediators (i.e., attitudes, subjective norms, or PBC) a mediation analysis was conducted using Hayes' bootstrapping (with 5000 resamples) procedure. The results indicated that each of the three interventions produced significantly greater intentions to reduce SSB consumption than did its respective control condition ($p < .03$), and the condition that included all three interventions resulted in the greatest SSB reduction intentions ($p = .04$). Moreover, the effect of the social norms information intervention on SSB reduction intentions was mediated by its effects on all three of the TPB cognitions (for attitudes towards SSB reduction, for subjective norms, and for PBC), whereas the effect of the planning task on participants' intentions was mediated by its effects on their attitudes towards SSB reduction, and their perceived subjective norms. There was no evidence that the greater SSB reduction intentions produced by the SSB risks intervention was mediated by any of the TPB cognitions. Also, although the planning task resulted in lower reported SSB consumption ($p < .05$), there was no evidence that this effect was mediated by corresponding changes in any of the TPB cognitions. The literature would benefit from more efforts to experimentally manipulate

all three primary TPB cognitions in a variety of health contexts. It is also important that such efforts attempt to examine the mechanisms through which the interventions produce beneficial effects on intentions and behavior.

APA Citation: Gregorio-Pascual, P., & Mahler, H. I. M. (April 2020). *Mediation Analyses: Application of the Theory of Planned Behavior Constructs on Sugar-Sweetened Beverage Consumption*. At the 41st Annual Meeting & Scientific Sessions of Society of the Behavioral Medicine, San Francisco, CA.

Abstract

We examined whether any obtained effects of three interventions, based on the Theory of Planned Behavior (TPB), on sugar sweetened beverage (SSB) consumption would be mediated by corresponding effects of the interventions on the three primary TPB cognitions (i.e., attitudes, subjective norms, perceived behavioral control [PBC]). Undergraduates (N = 430) were randomly assigned to condition in a 2 (SSB risks information vs control) x 2 (SSB consumption norms information vs no information) x 2 (SSB reduction planning task vs control) factorial design. Immediately following the interventions, participants' SSB reduction attitudes, subjective norms, and PBC were assessed. SSB consumption intentions and behavior were assessed at an unannounced 2-week follow-up. In any instance where one of the three interventions (i.e., risks, norms, planning task) affected both the dependent variable (i.e., intentions or behavior) and one of the proposed mediators (i.e., attitudes, subjective norms, or PBC) a mediation analysis was conducted using Hayes' bootstrapping (with 5000 resamples) procedure. The results indicated that each of the three interventions produced significantly greater intentions to reduce SSB consumption than did its respective control condition ($p < .03$), and the condition that included all three interventions resulted in the greatest SSB reduction intentions ($p = .04$). Moreover, the effect of the social norms information intervention on SSB reduction intentions was mediated by its effects on all three of the TPB cognitions (for attitudes towards SSB reduction, for subjective norms, and for PBC), whereas the effect of the planning task on participants' intentions was mediated by its effects on their attitudes towards SSB reduction, and their perceived subjective norms. There was no evidence that the greater SSB reduction intentions produced by the SSB risks intervention was mediated by any of the TPB cognitions. Also, although the planning task resulted in lower reported SSB consumption ($p < .05$), there was no evidence that this effect was mediated by corresponding changes in any of the TPB cognitions. The literature would benefit from more efforts to experimentally manipulate all three primary TPB cognitions in a variety of health contexts. It is also important that such efforts attempt to examine the mechanisms through which the interventions produce beneficial effects on intentions and behavior.

Petrona was also recognized for a second award.

2020 SBM Abstract Meritorious Winner:

Distributor agreements and the location and branding of unhealthy products within food stores

APA Citation:

Gregorio-Pascual, P., Romero, E., Thornton, L., Gittelsohn, J., Laska, M.N., D'Angelo, H., Ribisl, K., & Ayala, G. X. (April 2020). *Distributor agreements and the location and branding of unhealthy products within food stores*. At the 41st Annual Meeting & Scientific Sessions of Society of the Behavioral Medicine, San Francisco, CA. *Was cancelled due to COVID-19*

Abstract

Energy-dense, nutrient-poor foods and beverages (i.e., unhealthy products) are often placed at the front of stores to encourage purchasing. Branding products also impacts purchasing. Yet, how product location and branding are related to the types of agreements stores have with product distributors is less well understood. This study examined product in-store location and branding of five unhealthy product categories as a function of distributor agreement type. This cross-sectional study involved 72 small stores located in four US cities: Baltimore, MD; Durham, NC; Minneapolis/St. Paul, MN; and San Diego, CA. Store audits assessed product locations [front/back endcaps, cash register(s), other displays (e.g. coolers)], and branding of five unhealthy product categories (sweet snacks, savory snacks, confectionary, frozen treats, and sugary beverages). Managers self-reported distributor agreement type for each product category: formal (i.e., written contract) versus informal (i.e., verbal agreement or handshake). Independent sample *t*-tests were conducted to compare the mean percent of products present/branded in each in-store location by agreement type. Results suggests that a higher percent of stores had savory snacks available at front endcaps when the stores had formal ($M = 66.9\%$, $SD = 32.8\%$) versus informal agreements ($M = 48.2\%$, $SD = 30.9\%$, $p < .04$). Moreover, a higher percent of stores had sugary beverages available at cash registers when the stores had informal ($M = 42.4\%$, $SD = 45.9\%$) versus formal agreements ($M = 18.2\%$, $SD = 39.2\%$; $p = .049$). Also, there was a higher percent of stores had sugary beverages available at other displays when the stores had informal ($M = 65.4\%$, $SD = 20.6\%$) versus formal ($M = 52.8\%$, $SD = 23.1\%$) agreements ($p < .04$). No other relationships were statistically significant by distributor agreement type ($p > .05$). Distributor agreements exist in small food stores and these agreements appear to play a role in the presence, placement and the branding of some but not all unhealthy foods and beverages. Understanding how agreements influence presence, placement and branding throughout the store is important due to the ubiquity of small food stores in low income communities, and their importance as a source of food and beverages.