MODELING THE EFFECTS OF IDENTITY NONVERIFICATION IN IDENTITY THEORY

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ABSTRACT

The proper estimation of the effects of nonverification necessitates models that incorporate the theoretical relationship between nonverification and the outcome. Two different models are indicated. The first models the effect of identity nonverification on the behaviors that work to change meanings in the situation to match the meanings in the identity standard. The second models the effect of identity nonverification on the emotions the person feels as a result of the nonverification. Examples are provided.

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In modeling a measure or outcome, we assume that each measure is made up of several parts based on theoretical considerations. For example, a simple linear model of a one-way ANOVA table assumes each measure is regarded as the sum of three parts:

$$Y = \mu + \alpha_i + \varepsilon_{ij} \quad (1)$$

where μ is common to all measures, α_i are common to all measures in the *i*th population (class), and ε_{ij} (the error term) is specific to the *j*th measure in the *i*th population (Burke and Schuessler 1973). These parts (the parameters μ and α_i) are based on the theoretical model that is assumed to underlie the measured values: a common mean, μ, effects of being on one of the *i* populations, the α_i, and a random component that is unique to each individual ε_{ij}. With some additional assumptions, the values of μ, the α_i, and the unique components ε_{ij} can be estimated using either least squares or maximum likelihood.[1] Should the assumed model not be correct, the estimates of the parameters will not be correct. If terms are simply added or removed, the model is not correct, and the estimates will not be correct.

In identity theory, nonverification is the result of a discrepancy between the identity standard (i) and the perceived input (r), usually the reflected appraisals. Thus, discrepancy is (r-i). There are two different functions of the discrepancy depending upon whether what

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[1] For least squares estimation, these assumptions include that the ε_{ij} are independent and normally distributed and that the sum of the α_i is zero.

is being affected is behavior (to compensate for the discrepancy) or emotion (how one feels about this discrepancy).

In identity theory, the behavior equation (model) is:

$$B = \mu + \alpha\left(r - i\right) + \varepsilon \tag{2}$$

where B represents the new meaning of the behavior after the nonverification, μ represents what the meaning of the behavior currently is, α represents the size and direction of the adjustment to the behavior (increasing the behavior, +, or decreasing the behavior (-), and *(r-i)* represents the magnitude of the discrepancy (*r*eflected appraisals minus identity standard). Note that if the discrepancy (r-i) is zero, reflected appraisals equal the identity standard, no change is predicted in the meaning of the behavior. If this discrepancy is positive, i.e., reflected appraisals are greater than the identity standard, the α should be negative meaning there is a negative change in the meaning of the behavior (the effect is subtracted from the current behavior), thus counteracting the too high reflected appraisals. If the discrepancy is negative, i.e., reflected appraisals are lower than the identity standard, the α should be positive, thus increasing the current behavior. In this way, the too low reflected appraisals are counteracted in increasing the meaning of the behavior.

The emotion model in identity theory is different than the behavior model. The model for emotion is:

$$E = \mu + \alpha\left(r - i\right)^2 + \varepsilon \tag{3}$$

where E represents the amount of positive emotion felt after the nonverification with negative values representing negative emotion, μ represents the emotion currently felt, α represents the size and direction of the adjustment to the emotion (α is assumed to be a

negative coefficient), and *(r-i)* represents the magnitude of the discrepancy (*r*eflected appraisals minus identity standard). The main difference between the emotion equation from the behavior equation is the square term on the discrepancy (r-i). Again, if the reflected appraisals are equal to the identity standard, the discrepancy is zero and the emotion is not changed. If the reflected appraisals are higher than the identity standard, the squared term is positive and emotion is made more negative (because of the negative α). Similarly, if the reflected appraisals are lower than the identity standard, the squared term is positive, and emotion is also made more negative (again, because of the negative α).

Because both the behavioral and emotion models are given by identity theory, altering them requires theoretical reasons to properly estimate the coefficients. For both the behavioral and emotion models, we are not simply estimating a curve using polynomials, e.g., $Y = a + b_1X + b_2X^2 + b_3X^3 + ...$ which is curve fitting not theory modeling or testing. To add the linear term *(r-i)* to the emotion equation or the squared term $(r-i)^2$ to the behavior equation, neither of which are part of identity theory as it currently exists, just to have the full polynomial, would be inappropriate unless there are strong theoretical reasons for doing so, and the mechanisms by which they operate are understood.

Some examples of the emotional model (Eq. 3) and the behavioral model (Eq. 2) are appropriate. With respect to the emotional model, Burke and Harrod (2002) studied the self-views (identity standard) of husbands and wives along several evaluative dimensions along with information about how their spouse viewed them (representing the reflected appraisals). The squared discrepancy between the standard and the reflected appraisals was then used to predict three negative feelings or emotions (depression, anger, and distress), as well as two positive feelings (self-worth and self-efficacy) to show that the negative

emotions increased, and the positive feeling decreased when the reflected appraisals were either above or below the identity standard. Being over evaluated had the same negative effects and being under evaluated.[2]

Similarly, Stets and Carter (2012) used the squared discrepancy between the moral identity standard and reflected appraisals to show similar results with a negative emotion scale made up of measures of feelings of happiness, disgust, fear, anger, sadness, shame, guilt, and empathy (all scored with negative feeling high and positive feelings low). An early study by Burke and Stets (Burke and Stets 1999) used the absolute discrepancy between the reflected appraisals and the identity standard before it was understood that the squared discrepancy is mathematically more tractable and fits the data better as tested in the Stets and Carter (2012) paper.

Work that predicts behavioral outcomes is currently rarer, in part, because two clear time points are needed to show behavioral change to counteract the discrepancy as to the result of nonverification. In a study of identity change, Burke (2006) examined the spousal identity and spousal role performance. He showed that both husbands and wives changed their spousal role performance in response to the non-squared discrepancy between their spousal identity and their reflected appraisals with respect to the spousal identity. Husbands and wives increased their role performance when the reflected appraisals were lower than the identity standard but decreased their role performance when the appraisals were higher than the standard.

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[2] This study also included the non-squared discrepancy to test the prediction of an alternative theoretical position that people responded more positively when the reflected appraisals were more positive than the standard but responded negatively when appraisals were more negative than the identity standard. This turned out not to be the case thus showing that the emotion equation used by identity theory is correct.

Savage et al. (2019) examined the fairness identity and showed that a non-squared discrepancy between reflected appraisals and the fairness identity standard predicted the resulting fairness behavior. Persons who thought others saw them as less fair than their identity standard increased their fairness behavior, while people who felt that others saw them as more fair than their standard reduced their fairness behavior.

Stets et al. (2020) examined the nonverification of the dominance identity. Using the non-squared discrepancy between reflected appraisals and the dominance identity standard, these authors showed that persons engaged in behavior that served to counteract the nonverifying discrepancy. Persons who felt that others saw them as less dominant than their identity standard increased their dominant behavior but decreased that dominant behavior if they felt that others saw them as more dominant than their standard.

In summary, when estimating the effects of nonverification on behavior that counteracts the discrepancy, use of the behavioral equation (Eq. 2) is appropriate. When estimating the negative feelings or emotion that results from nonverification, use of the emotion equation (Eq. 3) is appropriate. If one departs from these procedures, it should be motivated only by theoretical reasons, those reasons need to be identified, and tested.

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