Anuario de Psicología
2012, vol. 42, nº 1, 103-112

Response Certainly, Conscienciousness, and Self-concept Clarity as antecedents of Acquiescence: A prediction model*

Pere J. Ferrando
Cristina Anguiano-Carrasco
Universitat Rovira i Virgili

The present research focuses on the development of a prediction model for Acquiescent Responding based on three individual-differences predictors: Response Certainty, Conscientiousness and Self-Concept Clarity. According to Gilbert's Dual-Process Theory (1991), Acquiescent Responding emerges when a respondent go rapidly through the reconsideration stage. The variables used to predict Acquiescent Responding are supposed to be related with this stage. The prediction model, which is assessed on a sample of 403 undergraduate students, has to deal with four main obstacles: a) how to obtain "clean measures" of acquiescence, b) how to obtain acquiescence-free content measures, c) how to determine error-free relations from fallible scores, and d) how to determine the relative importance of each predictor. The present proposal addresses these problems. Results suggest that the three chosen variables are significant predictors of Acquiescent Responding
Key words: *Acquiescent Responding, Response Certainty, Conscientiousness, Self-Concept Clarity, Error-in-variables Model.*

Seguridad en la respuesta, meticulosidad y claridad de auto-concepto como antecedentes de la Aquiescencia: un modelo predictivo

La presente investigación se centra en el desarrollo de un modelo para la predicción de la respuesta aquiescente mediante tres variables de diferencias

* *Agradecimientos:* This research was supported by a grant from the Spanish Ministry of Economy and Competitiveness (PSI2011-22683).
Correspondencia: Cristina Anguiano-Carrasco. Laboratorio de Psicología. Facultad de Ciencias de la Educación y Psicología. Campus Sescelades. Universidad 'Rovira i Virgili'. Carretera Valls s/n. 43007 Tarragona. Correo electrónico: cristina.anguiano@urv.cat

individuales: Seguridad en la Respuesta, Meticulosidad y Claridad de Auto-Concepto. En base a la Teoría del Procesamiento-Dual de Gilbert (1991), la Respuesta Aquiescente emerge cuando el participante pasa rápido a través del estadio de reconsideración. Las variables utilizadas para predecir Respuesta Aquiescente se suponen relacionadas con este estadio. El modelo de predicción, evaluado en una escala de Extraversión contestada por 403 estudiantes universitarios, se enfrentó a 4 problemas iniciales: a) como obtener "medidas limpias" de aquiescencia, b) como obtener medidas de contenido libres de aquiescencia, c) como estimar relaciones latentes a partir de variables medidas con error, y d) como determinar la importancia relativa de cada predictor. El modelo predictivo propuesto aquí resuelve estos problemas, y obtiene que las tres variables consideradas predicen de forma estadísticamente significativa la Respuesta Aquiescente.

Palabras clave: *respuesta aquiescente, seguridad en la respuesta, meticulosidad, claridad de auto-concepto, modelo predictivo.*

Introducción

Acquiescence can be defined as a tendency to endorse or agree with an item regardless of its content. Thus, as a non-content response determinant, it can be considered as a response style that can bias item responses (e.g. Ray, 1979, 1983). Together with social desirability (SD), acquiescence has received a great deal of attention in personality measurement, and has generated a vast amount of literature that peaked in the 1960's. However, in contrast with SD in which some basic issues remain still unsolved (e.g. Ferrando & Anguiano-Carrasco, 2011), a consensus position appear to have been reached regarding acquiescence. Essentially, acquiescent responding is considered to be the result of a complex item × person process in which certain propensities of the individual interact with certain item characteristics (e.g. Elliott, 1961; Condon, Ferrando & Demestre, 2006). Within this comprehensive framework, both item and person determinants have been explored. Thus, as for the items, the characteristics that most tend to elicit Acquiescent Responding appear to be the length, complexity, ambiguity and generality of the stem (Angleitner, John & Lörh, 1986; Condon, Ferrando & Demestre, 2006; Krosnick & Fabrigar, 1998) as well as the difficulty in answering the item (Gage, Leavitt & Stone, 1957; Hanley, 1962; Trott & Jackson, 1967).

So far, research on the individual determinants of Acquiescent Responding has mainly focused on motivational, cognitive and sociological variables. Results suggest that the propensity to acquiesce is stronger in low motivated respondents as well as in individuals of lower cultural level (Ayidiya & McClendon, 1990; Narayan & Krosnick, 1996), lower cognitive ability (Krosnick, Nayaran & Smith, 1996), and when the respondent is fatigued (e.g., Clancy & Wachsler, 1971). Therefore, when people do not have the skills or the motivation to answer thoughtfully, or when the questions demand difficult cognitive processes acquiescence appears (Krosnick, 1991).

The dual-process theory (Gilbert, 1991) states that when answering an item, the respondents first evaluate the item content and then reconsider the appropriateness of the item to their way of thinking or believing. Thus, acquiescent subjects would need less time to answer an item as they go quickly through the reconsideration stage (because it implies a cognitive effort). Studies by Knowles and Condon (1999) find evidence supporting this hypothesis as the yea-sayers and nay-sayers (i.e., acquiescent respondents) used less time to answer each item than appropriate respondents. This model may explain why people with low cultural level, low cognitive ability, low motivated and/or fatigued are more prompted to Acquiescent Responding. It may also satisfactorily explain why long, complex ambiguous items tend to elicit Acquiescent Responding.

Apart from the determinants so far discussed, it seems also likely that certain individual-differences variables which can be considered as personality traits (or meta-traits) are characteristics of acquiescent responders. Up to our knowledge, these potentially relevant variables have not been empirically studied yet, and the present study is a first step in this direction. We believe that this type of study is of interest both to better understand the process that leads to this style (theoretical interest), and perhaps to better predict which individuals are more likely to engage in Acquiescent Responding (practical interest). Of the potentially relevant antecedents of Acquiescent Responding variables, this study has focused on the following three variables.

The first variable is the self-reported certainty with which the respondent answered the item (Response Certainty). This measure has been chosen on the basis of previous research made on the attitude domain. A series of studies carried out by Krosnick and Schuman (1988) were based on the hypothesis that attitudes expressed with greater certainty are less prone to response effects and more resistant to change. This hypothesis would also support Gilbert's Dual-Process Theory, as those respondents who are certain on their responses would need less effort on the reconsideration stage, being more consistent, and consequently less prone to Acquiescent Responding. As for the generalizability of this hypothesis to the personality domain, we note that, there is a clear parallelism: (a) between an attitude item and a personality item, and (b) between the role of expressed certainty in both cases (deMarree, Petty & Briñol, 2007). Our starting hypothesis is that those respondents who express greater certainty about their responses will have lower levels of acquiescence.

The second variable that we shall consider is conscientiousness. Conscientiousness is defined as the drive to accomplish something, and contains the characteristics necessary in a pursuit: Being organized, systematic, efficient, practical, and steady (DeRaad, 2000; Goldberg, 1992). Conscientiousness contrasts such traits as organization, thoroughness, and reliability with traits such as carelessness, negligence, and unreliability (Goldberg, 1993). DiStefano and Molt (2009) showed that subjects with higher levels of conscientiousness were less

affected by response effects such as the ones produced by negatively worded items. As participants with higher levels of conscientiousness will pay more attention and care in the answers, we hypothesize that participants with high scores in conscientiousness will have lower levels of Acquiescent Responding.

Finally, the third variable is Self-Concept Clarity. Self-Concept Clarity is defined as a cognitive schema, an organized knowledge structure that contains traits, values, episodic and systemic memories about the self. It includes beliefs about one's specific attributes, as well as roles, values and personal goals (Campbell *et al.,* 1996). Because the second stage on the dual-process theory requires the participant to know about his/her way of thinking and behaving, we think that the clearer and better structured the self-schema is, the less prone to Acquiescent Responding the answer will be. We propose Self-Concept Clarity as a conceptually related variable to Acquiescent Responding in the sense that those participants with higher scores on Self-Concept Clarity are expected to be the ones who would show less Acquiescent Responding.

Method

Participants and procedure

Respondents were 403 undergraduate students from the Psychology and Social Sciences faculties of a Spanish university. The questionnaires were administered in paper and pencil version by the same person in all cases, and were completed voluntarily in classroom groups of 25 to 60 students. The administration was anonymous, and the respondents had to provide only two particulars: gender and age. Mean age was 23.13 (SD = 7.15); 25.1% were men and 74.9% were women.

Measures

Participants filled in a set of three questionnaires: The first is the Extraversion scale (E) in Eysenk Personality Questionnaire, Spanish version (Aguilar, Tous & Andrés, 1990) that includes a balanced core of 10 and 10 items. The second is a conscientiousness scale formed by 9 binary items from the International Personality Item Pool (IPIP; Goldberg, 1999) which is partially balanced being 5 items in one direction and 4 in the opposite direction. These 9 items are placed among the E items. Finally, we adapted the Self-Concept Clarity Scale by Campbell, Trapnell, Heine, Katz, Lavallee and Lehman (1996), as a measure of Self-Concept Clarity. The Spanish version has 11 items (one of the original items do not work appropriately in the adaptation) with a 5-point format: 9 items assessing Self-Concept Clarity and 2 reversed items. The Self-Concept Clarity scale is

scored in the direction that lower scores mean great self-confidence. Following each item, a Response Certainty judgment is required as in Zuckerman, Knee, Miyake and Hodgins (1995) study: Here we ask participants to rate in a 7-point scale how confident they were in the answer they had just given.

Statistical Analysis.

Methodologically, our study is a basic multiple-prediction which assesses the predictive power of three measures: Response Certainty, Conscientiousness and Self-Concept Clarity with respect to a measure of Acquiescent Responding which is the dependent variable. In spite of this simplicity, some substantive and methodological considerations are in order before discussing the empirical section.

At the substantive level, as we discussed above, we consider Acquiescent Responding to be the result of a complex interactive process in which multiple item features interact with multiple individual characteristics, of which the personality variables considered here are only a part. Thus, although we expect to find clear and significant relations supporting our hypotheses, we cannot expect that our predictors are able to account for a large amount of criterion variance.

At the methodological level our study encounters four basic obstacles. The first one is how to obtain a "clean" and relatively accurate measure of acquiescence to be used as the dependent variable. To date, the best approach for this purpose is to use a balanced scale in which all of the items are positively worded, but in which some of the items measure in one direction of the trait and the remaining measure in the opposite direction (Ray, 1979, 1983). Ferrando, Lorenzo-Seva, and Chico (2003, 2009) proposed a factor-analytic procedure based on balanced scales that allow separate content scores and acquiescence scores to be obtained. This was the procedure used here for obtaining the measure of acquiescence used as dependent variable.

The second problem is that the measures used as predictors must be 'content' measures which are free from Acquiescent Responding. If they are not, then the potential acquiescence component in the predictor scores is likely to upwardly bias their predictive power. To avoid this problem, the predictor measures should be acquiescence-free content scores based on balanced scales. This is feasible, and has been done, with the Conscientiousness and Self-Concept Clarity measures. However the Response Certainty responses are judgments of magnitude or intensity that do not have agree/disagree poles and that cannot be naturally balanced. Thus, we acknowledge the limitation, but we believe unlikely that Acquiescent Responding can substantially bias this type of responses.

The third methodological problem is that we are interested in the relations between latent variables but we only have fallible observed measures of them. Furthermore, because each latent variable is measured by a single indicator, a full structural equation model cannot be used in this case. The solution we have

adopted is to correct the relations for attenuation by using the reliability estimates of the observed measures (alpha coefficients in our case). In more detail, at the bivariate level we have obtained both, the raw product-moment correlations and the disattenuated correlations. At the model level we have used an error-in-variables regression model (see Fuller, 1987) in which common variances or commonalities are used instead of the observed variances. This model provides disattenuated regression estimates (Beta weights in our case) as well as the corresponding standard errors.

The final problem is how to determine the relative importance of the predictors as antecedents of Acquiescent Responding. This point is traditionally assessed by examining the Beta weights. However, this procedure can be insufficient. Beta weights are context dependent, and, when the predictors are correlated, cannot be used to unambiguously determine the contribution of the predictor to the explained criterion variance (see, e.g., Budescu, 1993). To overcome this problem, we have also used Johnson's (2000) relative weights as computed in the FIRE program (Lorenzo-Seva & Ferrando, 2011). Essentially, the relative contribution of each predictor is assessed by creating a set of variables that are highly related to the original set of predictors, but are uncorrelated with each other. The sum of the relative weights equals the multiple R^2 (Johnson, 2000). Thus, relative weights are usually reported as percentages of contribution to the overall explained variance.

Results

For each measure, table 1 shows the reliability estimates (alpha coefficients), the correlation of each regressor with the criterion and the corresponding disattenuated correlation. For correlational purposes, the estimated reliabilities are acceptable. As for the prediction relationships, they all are in the expected direction, are statistically significant, and, indeed, increase their magnitude when corrected for disattenuation.

Figure 1 summarizes the results obtained when fitting the error-in-variables prediction model. These results include (a) the proportion of criterion variance accounted for by the model, (b) the disattenuated weights, and (c) their standard errors.

Table 2 shows the contribution of each scale to the overall explained variance together with the 90% confidence interval. According to the point estimates, Conscientiousness is the trait that most contribute to the prediction, followed by Response Certainty and Self-Concept Clarity. And this result agrees also with the product-moment correlations and the Beta weights. However, the confidence intervals around Johnson's relative weights are quite overlapping and none of the pairwise differences between relative contributions can be considered as statistically significant (if a two-tailed 90% confidence interval is considered).

TABLE 1. BIVARIATE RELATIONS BETWEEN ACQUIESCENT RESPONDING AND THE PREDICTORS.

Variable	r_{xx}	r_{xy}	Dis_r_{xy}
Acquiescent Responding	0.74		
Response Certainty	0.88	-0.21	-0.26
Conscientiousness	0.69	-0.22	-0.30
Self-Concept Clarity	0.90	0.23	0.28

Note: r_{xx} means estimated alpha coefficient for reliability, r_{xy} means product-moment correlation, Dis_r_{xy} means disattenuated correlation.

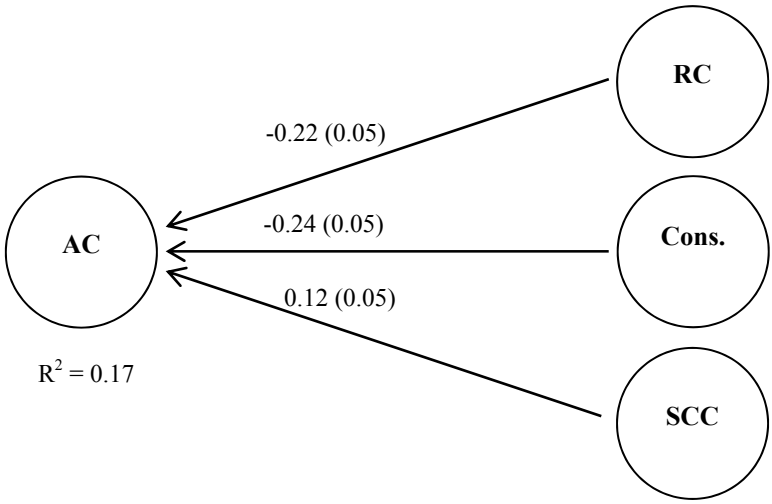

Figure 1. Error-in-variables standardized estimates. AR means Acquiescent Responding, RC means Response Certainty, Cons. means conscientiousness and SCC means Self-Concept Clarity.

TABLE 2. JOHNSON'S RELATIVE WEIGHTS.

	Acquiescent Responding	*90% C.I.*
Response Certainty	32.7%	11 - 52
Conscientiousness	42%	15 - 66
Self-Concept Clarity	25.3%	18 - 52

Discussion

This study aims to fit a prediction model for Acquiescent Responding based on three main individual-differences variables: Response Certainty, Conscientiousness and Self-Concept Clarity. The results show that all three variables significantly contribute to the prediction of Acquiescent Responding. According to the point estimates, Conscientiousness is the variable that most contribute to explain criterion's variance. However the difference with the remaining predictors is not statistically significant at the conventional .05 level.

According to the discussion made at the beginning of the article, we believe that the present results are mainly of theoretical interest, and that they contribute to a better understanding of the mechanisms that determine Acquiescent Responding. First, they suggest that personality or individual-differences variables have a role in determining Acquiescent Responding. Second, they support the Dual-Process explanation of Acquiescent Responding. According to this explanation Acquiescent Responding would occur when participants do not go through the reconsideration stage appropriately or accurately. Within this framework, Conscientiousness and Self-Concept Clarity can be considered as characteristics that elicit a better and more accurate reconsideration process, whereas Response Certainty can be considered to be an indicator about whether the process has been appropriate.

From a practical point of view, the main result is that the percentage of criterion variance accounted for by the three predictors is modest (17%). As discussed above, this is only to be expected, as we consider that the variables we assessed are not the main determinants of Acquiescent Responding. Rather, they can be better considered as "background" variables that indicate a tendency toward providing acquiescent responses and that may contribute to a better prediction of this bias. If considered in this way, and because these background variables are viewed as enduring dispositions, they would be expected to maintain their modest predictive power across different traits and situations. This point clearly warrants further research, because the present study has been only based on a single dependent variable: Extraversion (which is indeed a clear limitation). Another interesting future line of research would be to assess the increase of predictive power due to the variables considered here when some of the main determinants (e.g. educational level or participants' motivation) are also included in the model. Finally, it would also be of interest to assess whether the item characteristics that have an important influence on Acquiescent Responding interact with the personality variables considered here.

References

Aguilar, A., Tous, J.M. *&* Andrés, A. (1990). Adaptación y estudio psicométrico del EPQ-R. *Anuario de Psicología*, *46,* 101-118.

Angleitner, A., John, O.P. *&* Löhr, F.J. (1986). It's what you ask and how you ask it: An itemmetric analysis of personality questionnaires. In: A. Angleitner & J.S. Wiggins (Eds). *Personality Assessment via Questionnaires* (pp.61-107). New York: Springer-Verlag.

Ayidiya, S.A. *&* McClendon, M.J. (1990). Response effects in mail surveys. *Public Opinion Quarterly, 54,* 29-47.

Budescu, D.V. (1993). Dominance analysis: A new approach to the problem of relative importance of predictors in multiple regression. *Psychological Bulletin, 114,* 542–551.

Campbell, J.D., Trapnell, P.D., Heine, S.J., Katz, I.M., Lavallee, L.F. *&* Lehman, D.R. (1996). Self-Concept Clarity: Measurement, Personality Correlates, and Cultural Bounderies. *Journal of Personality and Social Psychology, 70,* 141-156.

Clancy, K.J. *&* Wachsler, R.A. (1971). Positional effects in shared-cost surveys. *Public Opinion Quarterly, 35,* 58-65.

Condon, L., Ferrando, P.J. *&* Demestre, J. (2006). A note on some item characteristics related to acquiescent responding. *Personality and Individual Differences, 40,* 403-407.

DeMarree, K.G., Petty, R.E. *&* Briñol, P. (2007). Self-Certainty: Parallels to Attitude Certainty. *International Journal of Psychology and Psychological Therapy, 2,* 159-188.

DeRaad, B. (2000). *The Big Five Personality Factors. The Psycholexical Approach to Personality.* Göttingen: Hogrefe & Huber Publishers.

DiStefano, C. *&* Molt, E.W. (2009).Personality correlates of method effects due to negatively worded items on the Rosenberg Self-Esteem scale. *Personality and Individual Differences, 46,* 309-313.

Elliott, L.L. (1961). Effects of item construction and respondent aptitude on response acquiescence. *Educational and Psychological Measurement, 21,* 151-174.

Ferrando, P.J. *&* Anguiano-Carrasco, C. (2011). A SEM at the individual and group level for assessing faking-related change. *Structural Equation Modeling*, *18,* 1-19.

Ferrando, P. J., Lorenzo-Seva, U. & Chico, E. (2003). Unrestricted factor analytic procedures for assessing acquiescent responding in balanced, theoretically unidimensional personality scales. *Multivariate Behavioral Research, 38,* 353-374.

Ferrando, P.J., Lorenzo-Seva, U. *&* Chico, E. (2009). A General factor-analytic procedure for assessing response bias in questionnaire measures. *Structural Equation Modeling, 16*, 364-381.

Fuller, W.A. (1987). *Measurement Error Models*. New York: Wiley.

Gage, N.L., Leavitt, G.S. *&* Stone, G.C. (1957). The psychological meaning of acquiescence set for authoritarism. *Journal of Abnormal and Social Psychology, 55,* 98-103.

Gilbert, D.T. (1991). How mental systems believe. *American Psychologist, 46,* 107-119.

Goldberg, L.R. (1992). The development of markers for the Big- Five factor structre. *Psychological Assessment, 4,* 26-42.

Goldberg, L.R. (1993). The structure of phenotypic personality traits. *American Psychologist, 48,* 26-34.

Goldberg LR. (1999). A broad-bandwidth, public-domain, personality inventory measuring the lower level facets of several Five-Factor models. In: I. Mervielde, F. de Fruyt *&* F. Ostendorf (Eds.). *Personality Psychology in Europe, Vol. 7* (pp.7-28). Tilburg University Press: Tilburg.

Hanley, C. (1959). Responses to the wording of personality test items. *Journal of Consulting Psychology, 23,* 61-65.

Johnson, J.W. (2000). A heuristic method for estimating the relative weight of predictor variables in multiple regression. *Multivariate Behavioral Research, 35,* 1–19.

Knowles, E.S. *&* Condon, C.A. (1999). Why People Say "Yes": A Dual-Process Theory of Acquiescence. *Journal of Personality and Social Psychology, 77,* 379-386.

Krosnick, J.A. (1991). Response strategies for coping with the cognitive demands of attitude measures in surveys. *Applied Cognitive Psychology, 5,* 13-36

Krosnick, J.A. *&* Fabrigar, L.R. (1998). *Designing Good Questionnaires: Insights from Psychology.* New York: Oxford University Press.

Krosnick, J.A., Narayan, S. & Smith, W.R. (1996). Satisficing in surveys: initial evidence. *New Directions for Evaluation, 70,* 29-44.

Krosnick, J.A. & Schuman, H. (1988), Attitude Intensity, Importance, and Certainty and Susceptibility to Response Effects. *Journal of Personality and Social Psychology, 54,* 940-952.

Lorenzo-Seva, U. & Ferrando, P.J. (2011). FIRE: an SPSS program for variable selection in multiple linear regression analysis via the relative importance of predictors. *Behavioral Research Methods, 43,* 1-7.

Narayan, S. & Krosnick, J.A. (1996). Education moderates some response effects in attitude measurement. *Public Opinion Quarterly, 60,* 58-88.

Ray, J.J. (1979). Is the acquiescent response style problem not so mythical after all? Some results from a successful balanced F scale. *Journal of Personality Assessment, 43,* 638-643.

Ray, J.J. (1983). Reviving the problem of acquiescent response bias. *Journal of Social Psychology*, *121*, 81-96.

Trott, D.M. & Jackson, D.N. (1967). An experimental analysis of acquiescence. *Journal of Experimental Research in Personality, 2,* 78-88.

Zuckerman, M., Knee, C.R., Miyake, K. & Hodgingd, H.S. (1995). Hypothesis Confirmation: The Joint Effect of Positive Test Strategy and Acquiescence Response Set. *Journal of Personality and Social Psychology, 68,* 52-60.