A Meta-Analysis of the Functional Matching Effect Based on Functional Attitude Theory

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Abstract

The functional theory of attitudes (Katz, 1960) proposes that if persuasive messages target the reason why the audience possesses an attitude on that subject (the attitude's function), such messages will be more persuasive than if they target a different function. The "functional matching" effect was tested by meta-analyzing 16 articles, which reported 38 relationships between matching and persuasiveness and had a combined sample of 1,460. The functional matching effect was consistently strong across all moderators ($r = .37$). The use of the self-monitoring scale to identify functions produced a somewhat smaller effect than the average. Research employing other means of identifying attitude functions is called for. No evidence was found consistent with publication bias. Future directions for functional attitude theory research based on these results are discussed.

Key Words: functional attitudes, meta-analysis, persuasion

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In 1960, Daniel Katz made the provocative claim that, “unless we know the psychological need which is met by the holding of an attitude we are in a poor position to predict when and how it will change” (p. 170). Katz constructed a typology of the functions that an attitude might serve by surveying different motivational theories. The work of Katz and the parallel work of Smith, Bruner, and White (1956) laid out a research agenda for persuasion researchers to substantially improve the ability of persuaders to target their audience using functional attitude theory. Katz’s article discussed each function and made suggestions for how to change attitudes by matching the persuasive message to the function. If the right function could be targeted, the message would be substantially more persuasive. This hypothesis is referred to as the functional matching effect. Unfortunately, the functional attitude approach inspired little research in its time as neither Katz nor Smith et al. were able to produce effective methods of conducting research into the effectiveness of matching functions. Smith et al. based their approach on qualitative interviews and conducted no studies on functional matching. Katz and his colleagues conducted a few studies on the ego-defensive function that found mixed results and did not offer ways of studying the other functions (Katz, McClintock, & Sarnoff, 1957; Katz, Sarnoff, & McClintock, 1956).

After two and a half decades of near dormancy, Snyder and Debono (1985) revived attitude function matching research (see Debono, 2000 for a review). They proposed that an individual’s personality could be used to determine which function various attitudes would be likely to serve. Following Snyder and Debono, other researchers uncovered other methods of predicting functions based on the attitude objects themselves (Shavitt, 1990) and on situational cues (Shavitt, Swan, Lowrey, & Wanke, 1994). Despite expansion of research in this area, there

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is some inconsistency across studies as matching functions do not always produce increased persuasion (e.g. Petty & Wegener, 1998, study 1) and the effectiveness of matching may be stronger for some functions than others (e.g. Clary et al., 1998). In order to establish an estimate of the effect size associated with matching versus mismatching, the results of a meta-analysis of the functional matching effect will be reported.

This meta-analysis makes several contributions to the field of communication. First, the overall effectiveness of this approach can be determined without the biasing effects of sampling error and measurement error. Determining the effectiveness of this approach is important as functional attitude theory is beginning to be used in applied areas such as HIV testing (Dutta-Bergman, 2003; Hullet, 2006). If functional matching can offer public health campaigners additional tools for designing campaigns, they need to know what kind of effects to expect in order to decide among different message strategies.

Additionally, exploring functional attitude theory can contribute to theoretical understanding of what attitudes are. Functional attitude theory proposes that many attitudes go beyond simple hedonic motivations. Katz (1960) argued that to build strong attitude theory, a firm understanding of what attitudes are is required. For example dual-process models of persuasion had initially conceptualized involvement as based on positive or negative outcomes but Levin, Nichols, and Johnson (2000) found that there are other types of involvement that overlap with some of the attitude functions. These alternate types of involvement consistently produce different persuasion processes that dual-process models cannot account for. If attitude theory can progress, effectiveness of functional attitude theory as an explanatory mechanism needs to be established.

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First the typology of the five functions formed by combining the list proposed by Smith et al. (1956) and Katz (1960) will be reviewed. Then the typical functional matching study will be described. Finally, the proposed moderators of the functional matching effect will be discussed.

The Typology of Functions

Katz (1960) and Smith et al. (1956) derived their typologies of attitude functions independently of each other but both produced a similar list of functions. Although both suggested the possibility of an attitude serving more than one function, their work generally discussed each attitude as serving a single function (for conceptual work on conceiving of each function as a continuous variable see Herek, 1986). Smith et al. were trying to understand the structure of opinions and personality whereas Katz was attempting to use his typology to tailor persuasive messages. Given Katz's focus on persuasion, his labels for the attitude functions will be maintained here. The Smith et al. label for the social-adjustive function will be used because it was unique to their typology.

First, both Katz (1960) and Smith et al. (1956) described a utilitarian function for attitudes. Attitudes that serve a utilitarian function are those that help an individual remember which objects bring pleasure and which bring pain. Utilitarian attitudes help people know which objects to approach and which to avoid. These attitudes help people reach their individual goals and desires. For example, if Erin was out shopping for clothes and her attitude towards shoes served a primarily utilitarian function, messages from a salesperson concerning the durability of a pair of shoes, the comfort they provided, or perhaps the ability of the shoes to repel water during a rainstorm would be persuasive to her.

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Smith et al (1956) described a social-adjustive function such that attitudes serving this function are held in order to help one impress socially desirable others or groups. People possess such attitudes so that the expression of those attitudes will help them fit in or gain social standing. If Mike had social-adjustive attitudes towards shoes, a functional matching approach would suggest that a sales clerk wishing to sell Mike a pair of shoes would profit by emphasizing how popular the shoes are and how many people will think Mike looks attractive while wearing those shoes.

A value-expressive attitude, on the other hand, does not necessarily help people fit in. Instead, a value-expressive attitude helps people articulate their unique values (Katz, 1960). If someone's attitudes serve a value-expressive function, she or he has the attitude in order to be consistent with her or his values. People do not derive any concrete benefits from value-expressive attitude like they do from attitudes serving a utilitarian function. At most, people gain a sense of satisfaction from being true to their values. If a salesperson wanted to sell Allison a pair of shoes and Allison held shoe attitudes that were value-expressive, the salesperson would have to find out what kinds of values Allison has and target them. For example, Allison might have strongly held values such that child labor is morally wrong so the salesperson would have to persuade Allison that a pair of shoes was not made by child labor. This case illustrates an important point about value-expressive attitudes. A persuasive agent must not only know that the attitude of their target is value-expressive, she or he must also know which value the attitude serves in order to tailor a message for their target (Maio & Olson, 2000).

Rooted in Freudian psychology, Katz (1960) argued that some attitudes serve an ego-defensive function such that they protect one's self-esteem from threats. Threats to one's self-esteem can come from insults from others, one's own personal moral failings, having lower

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social status than one thinks one deserves, etc. These attitudes may often serve as a rationalization for some undesirable behavior or belief. Katz argued that people who held negative attitudes towards minority groups did so in order to maintain an inflated sense of superiority. Katz et al. (1956) attempted to change such attitudes by providing such people with information that attempted to instill a sense of self-insight into their bigotry. In the shoe buying scenario, if Josh developed a positive attitude towards an expensive pair of shoes to make up for being passed over for a promotion or for perceived physical inadequacies, his attitude would be ego-defensive. A clerk trying to tailor his sales pitch to Josh might emphasize how big and powerful he looked in a pair of shoes.

Finally, there is the knowledge function, which was unique to Katz's (1960) typology. Attitudes that serve a knowledge function help people make sense of the world and give them a greater understanding of their environment apart from any concrete rewards. Attitudes towards issues and situations that have little bearing on one's own life such as an American who is interested in the political candidates in an election in Kazakhstan might serve this function. If Neala developed an interest in the shoe industry based on its history, then her attitude towards particular shoes could serve a purely knowledge function. Katz argued that to change such attitudes, one simply needed to show someone how their attitude was inaccurate and they would change their attitude to make her or his view of the world more complete.

Now that the five functions have been reviewed, the functional matching literature will be discussed. The attitude function that is targeted and the way the function is identified (e.g. induced, measured, based on personality, etc.) will be proposed as potential moderators. Finally, a meta-analysis will be described that tested the difference in message persuasiveness when an

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attitude's function is matched with a persuasive message targeting that function or mismatched with one that does not.

Functional Matching Studies

The typical functional matching study follows the basic methodology laid out by Snyder and Debono (1985). First, for each participant in the study, the attitude function associated with an attitude towards a focal object is identified. Snyder and Debono's method of identifying attitude functions has become the most popular. They administered the self-monitoring scale in advance of exposure to the persuasive messages. If the participant was high in self-monitoring, their attitudes were assumed to be associated with the social-adjustive function because high self-monitors have a strong desire to please others and integrate into their social group. If the participant was low in self-monitoring, their attitude was deemed value-expressive as low self-monitors tend to focus on their own needs and values. The participants were then randomly assigned to a persuasive message that either targets the social-adjustive function or the value-expressive function. When high self-monitors received a message targeted at the social-adjustive function, the message was thought to be a functional match. When high self-monitors received a message targeting the value-expressive function, the message was thought to be mis-matched. The reverse was predicted for low self-monitors. If the matched conditions produced a higher score on a post-message attitude measure than the mismatched conditions, the evidence was considered to be consistent with the functional matching effect.

Potential Moderators

The first potential moderator to be discussed is the attitude function targeted. The social-adjustive function has been the most studied and has consistently been associated with strong effects (e.g. Shavitt, 1990; Snyder & Debono, 1985). On the other hand, efforts to target other

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functions have been inconsistently successful. Debono and Harnish (1988) failed to increase the persuasiveness of a message by matching a utilitarian appeal to that function. The problem with understanding these findings is that it is uncertain whether it is the ability of persuasion scholars to effectively write messages targeted at particular functions or if it is the theory itself that is lacking. In either case, demonstrating that the average effect size for targeting particular functions is lower than others will point to functions that require additional research.

Additionally, there have been several methods used to identify which function an individual's attitudes toward a particular attitude object serve. Snyder and Debono (1985) used scores on self-monitoring scales to determine which function an attitude serves and their method has remained the most commonly used. Shavitt (1990) found that the object itself may sometimes be consistently associated with a particular function regardless of the individual's personality. For example, Shavitt proposed that aspirin is solely associated with the utilitarian function. These various means of assigning attitude functions for the purposes of matching persuasive messages may be differentially effective and this meta-analysis will report the extent to which the method of assigning functions moderates the effectiveness of functional matching. If one means of identifying functions is stronger than another, it would assist researchers attempting to employ the functional matching effect.

The Meta-analysis

This meta-analysis collected all of the available studies that have tested the functional matching effect. Specifically, the effect size will be reported for the increase in persuasiveness caused by matching a persuasive message concerning an attitude object to the function of that attitude for the recipient of that message as opposed to sending a message that targets a different function. As there is no theory to make predictions about the effect of the proposed moderators,

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this research may be considered exploratory. By identifying which functions have been targeted successfully and the methods that have been the most successful in targeting them, this meta-analysis will help point the way towards future work that may develop a more complete account of the functional matching effect.

Method

Literature Search

The academic search engines “PsycINFO” and “Communication and Mass Media Complete” were searched using various permutations of “attitude,” “function,” “purposes” and “uses” such as “functional attitude” and “attitude functions.” Any article that mentioned attitude functions was examined for possible inclusion. The references section of all obtained articles and relevant review articles were also combed for more studies. The first authors on the obtained articles were all contacted and asked for unpublished articles.

Study Selection

In order to be included in this meta-analysis, several criteria had to be met. First, each study must have used some means of determining the extent to which a message was matched or mismatched to its function and measured the effectiveness of matching versus mismatching on post message exposure attitudes or a similar construct. The article must have used this methodology to test functional attitude theory. There are many persuasion studies that targeted values or used utilitarian appeals but the goal of this review is to examine the effectiveness of targeting persuasive messages with functional attitude theory as a guide. Second, a study must have reported enough information in the article to derive an effect size estimate. For example, Clary et al. (1998) was not included because that article only reported regression weights, which are unable to be converted into a standardized effect size that is comparable across studies

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(Hunter & Schmidt, 2004). Based on these criteria, 16 articles were obtained and 38 effect size estimates were derived. The total sample was 1,460 participants.

Coding

For each effect size, several aspects were recorded (see Table 1 for all of the information recorded for each effect size estimate). The sample size, the reliability information of the dependent variable (if available), the function targeted, and the method of predicting the functions were recorded for each effect size. Based on information in the articles, effect size estimates using the correlation coefficient were calculated and recorded. The effect size was based on the pairwise comparison between the persuasiveness of a message targeting a particular function when the recipient of that message was believed to possess the targeted function as compared to when the recipient possessed a different function. For studies that included an argument strength induction, only the strong argument conditions were used as it is typical to use persuasive arguments in this literature rather than weak arguments. Several studies reported the matching effect for more than one function at a time and the effect sizes for targeting each function could not be estimated. These studies were included in the overall effect size estimate but they could not be used for moderator analysis based on the type of function targeted.

Coding for the function targeted was conducted by examining the message and identifying which function it was most closely associated with as there have been conflicting interpretations of what functions were targeted in some of the self-monitoring studies (Shavitt, Lowrey, & Han, 1992). There were nine effect sizes from studies that targeted the utilitarian function, fifteen targeted the social-adjustive function, eight targeted the value-expressive function, one targeted the knowledge function, and none targeted the ego-defensive function. Two studies targeted each of the five functions but only reported an average of the effectiveness

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of functional matching across all the functions. An additional two targeted either the utilitarian or social-adjustive function but did not report the results separately with sufficient detail to estimate the effectiveness of functional matching for each.

The majority (29) of the effect sizes were based on studies that estimated the functions of their participants by measuring self-monitoring. These studies targeted messages at high self-monitoring individuals that were based on appeals to a socially-adjustive function and targeted low self-monitoring individuals with either value-expressive or utilitarian appeals. Four effect sizes were calculated from studies that measured which function the attitude served directly, two predicted functions based on the attitude object itself, two induced particular functions by frustrating the motivations associated with them, and one used scores on a measure of other-directedness such that higher scores were associated with a social-adjustment function.

Data-analysis

In order to estimate the mean weighted effect size and determine the amount of variance in the population correlation, the variance-centered method of meta-analysis described by Hunter and Schmidt (2004) was used. The Hunter and Schmidt method is preferred because it is the most common meta-analysis method in communication research (Anker, Reinhart, & Feeley, 2010). Each correlation was weighted by its sample size in order to create the most accurate estimate of the population effect size. Furthermore, an estimate of the homogeneity of the effect was obtained by determining what percentage of variance was explained by sampling error and other artifacts. Hunter and Schmidt argue that if 75% or more of the variance in the correlations can be attributed to sampling error and other artifacts, the effect is likely to be homogeneous (otherwise known as a fixed effects estimate). If, however, less than 75% of the variance can be explained, the effect size estimate is deemed heterogeneous (also called a random effects

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estimate) and an 80% credibility interval is constructed to estimate how widely the population effect size is predicted to vary based on undetected moderators of the effect. If the effect is heterogeneous, but the credibility interval is not very wide, undetected moderators may be unimportant as they would be unlikely to change the interpretation of the effect size. On the other hand, if the credibility intervals are wide, there may be occasions when moderators cause the effect to disappear or even reverse if the credibility interval includes values below zero. Confidence intervals and statistical significance tests were not calculated as they are often inaccurate and misleading in the case of a meta-analysis (Hunter & Schmidt, 2000). Because reporting of reliability information in the measure of the dependent variable was inconsistent, Hunter and Schmidt's (2004) artifact distribution method was used to correct for measurement error. This method uses an average of the reported reliabilities to correct for measurement error.

Results

Across studies, the sample size weighted mean effect size was $r = .37$, with an 80% credibility interval of $.19 < \rho < .55$. Sampling error and measurement error accounted for only 61% of the variance, which indicates the presence of moderators as it is below the 75% rule cutoff (Hunter & Schmidt, 2004). The credibility interval does not include zero, which indicates that the functional matching effect will almost always produce a positive effect when sampling and measurement error are accounted for despite the presence of moderators. Moderators may make the effect smaller, but they are unlikely to cause the effect to disappear or be reversed.

Next, the effect of the proposed moderators on the effect size will be examined. The nine effect sizes from studies that tested the effect of matching the utilitarian function almost formed a homogeneous set with 67% of the variance explained by sampling and measurement error ($N =$

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257). The sample size weighted effect, $r = .40$, was only trivially larger than the average effect across all functions. The 80% credibility interval was $.20 < \rho < .57$.

The fifteen effect sizes from studies that examined the effect of matching the social-adjustive function also produced a homogeneous set as 100% of the variance was explained by sampling and measurement error ($N = 513$). The sample size weighted effect ($r = .38$) was again only trivially larger than the total average effect and similar to the effect for targeting the utilitarian function.

Eight effect sizes were extracted from studies targeting the value-expressive function and the effect was homogeneous as 75% of the variance was accounted for by sampling and measurement error ($N = 354$). The 80% credibility interval was $.22 < \rho < .47$ around a sample size weighted mean of $r = .35$. This effect size is not substantially lower than the utilitarian or socially-adjustive functions. The credibility interval suggests that there are occasions when targeting the value-expressive function may be somewhat more effective than the social-adjustive functions but that there may also be occasions such that targeting the value-expressive function will be substantially less effective. Only one study reported a useable independent test of the knowledge function and none reported a functional matching test of the ego-defensive function.

Finally, 29 of the effect sizes calculated for this meta-analysis used scores on the self-monitoring scale to assign attitude functions ($N = 902$). For this set of studies, the sample size weighted average effect size was $r = .31$, slightly smaller than the overall average. Sampling error and measurement error accounted for 83% of the variance so application of the 75% rule would suggest that the estimate is probably homogeneous. The 80% credibility interval was $.20 < \rho < .43$. No other method of estimating attitude functions was tested with enough studies to

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produce a meaningful meta-analytic estimate. Therefore the only method of estimating functions that could be tested as a moderator was the use of self-monitoring scores to predict attitude functions.

The $n-r$ correlation suggested by Levine, Asada, and Carpenter (2009) was used to test the possibility that there are unpublished findings that were suppressed due to their failure to detect a statistically significant effect. This problem is known as publication bias. The correlation between the sample sizes for each study and the absolute value of the effect size for each study was $r = -.16$, which suggests only a small amount of publication bias. The trim-and-fill algorithm was used to estimate how many studies were likely to be missing from the meta-analysis due to bias against studies that do not find statistically significant effects (Duval, 2005; Duval and Tweedie, 2000). The trim-and-fill analysis found that, given the obtained distribution of the studies, there were likely to be zero unpublished studies on this relationship. It is unlikely that the overall effect size is biased by the absence of unpublished studies.

Discussion

The most important finding produced by this meta-analysis is the large effect size for matching attitudes to functions. The mean effect size was $r = .37$, which is larger than the effect size for inoculation theory's predictions ($r = .21$; Banas & Rains, 2010). This effect is also larger than the increase in persuasiveness for strong arguments when processed by those with high involvement rather than low involvement as per the elaboration likelihood model ($r = .21$; Johnson & Eagly, 1989). It was also larger than the decrease in persuasiveness for weak arguments when processed by those with high involvement rather than low involvement that the elaboration likelihood model predicted ($r = .11$; Johnson & Eagly). Finally, the functional matching effect is larger than the effect associated with counter-attitudinal advocacy as predicted

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by cognitive dissonance theory ($r = .23$; Preiss, Allen, Peterson, & Gayle, 2006). It should be noted that the credibility interval does include some of these other effect sizes so it remains to be seen when the functional matching effect is as strong of a predictor of persuasion as these other theories and when it is substantially stronger. As functional attitude matching may often produce stronger effects than employing inoculation theory, cognitive dissonance, and the elaboration likelihood model, it seems to be a theory worthy of additional research.

Several of the moderators that were tested did reduce the heterogeneity of variance in the effect size estimate, but their estimates of the overall effect did not generally differ substantially from each other. The credibility intervals for targeting the utilitarian and the value-expressive functions suggest that undetected moderators may cause these effect sizes to be both stronger and weaker than the effect size for targeting the socially adjustive function. It is uncertain why the utilitarian function might vary so much but perhaps the higher variance in effect sizes detected for targeting the value-expressive function lies in the variety of values that might drive an attitude when the attitude is held for the purpose of expressing values (Maio & Olson, 2000b). Methods that identify an attitude's function as value-expressive need to be supplemented with methods that identify the particular value that is being expressed. Hullet (2002, 2004, 2006) has had some success with modeling the processes associated with the value-expressive function in a health communication context by targeting specific values. Future research in this area would be helpful to determine the most effective ways to target value-expressive attitudes.

The use of the self-monitoring scale to target attitude functions (Snyder & Debono, 1985) was the most commonly used method for demonstrating the functional matching effect. The moderator analysis found that the studies using this technique as a group produced an effect size estimate that was somewhat smaller than the overall average effect size. Although this method of

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targeting functions has been widely used, research using other methods would be a profitable approach for several reasons. First, it is clear that there is plenty of research demonstrating this use of the self-monitoring scale so the need for further replications is dubious. Second, it remains uncertain if those who are low in self-monitoring possess attitudes that are value-expressive or utilitarian (Shavitt et al., 1992). Finally, the self-monitoring scale itself may lack validity (Dillard & Hunter, 1989). Julka and Marsh (2005) induced particular functions by frustrating them and found some of the largest matching effects in this corpus of studies. Clearly, methods other than the use of the self-monitoring scale are needed to make progress in understanding the functional matching effect.

Limitations

In general, this meta-analysis is limited because of the lack of additional primary studies. The small size of the meta-analysis limits the confidence one can place in its estimates. One of the most disappointing aspects of this corpus of studies was the lack of specific tests of the functional matching effect for the ego-defensive and knowledge functions (see Julka & Marsh, 2005 for an exception). Katz and colleagues (Katz et al., 1957; Katz et al., 1956) found mixed success with attempting to target the ego-defensive function using a variety of measures of personality thought to be associated with this function. More recently, Lapinski and Boster (2001) were able to effectively model the processes by which ego-defensive resistance to persuasion occurs. Further work is needed to understand the best means and the effectiveness of targeting the ego-defensive function.

Additionally, this body of studies may be producing an unrealistically high estimate of the effectiveness of functional matching by using the mismatched message as the comparison group. In order to truly demonstrate the effectiveness of functional matching, researchers might

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compare the effectiveness of the message when it is matched to only those who are a priori identified as possessing attitudes matching that function versus a group whose functions have not been identified at all. By comparing a matched message to the effectiveness of the message on a group of random people, the strength of tailoring the message to the audience can be assessed. This kind of research would help persuasion professionals decide if tailoring based on attitude functions is worth the difficulty associated with a priori identifying attitude functions.

Another limitation of this meta-analysis is its inability to distinguish among the various theoretical explanations for the functional matching effect due to a dearth of studies performing critical tests. Within the elaboration likelihood model framework (Petty & Wegener, 1998) several explanations have been proposed including the argument that functional matching acts as a peripheral cue (Snyder & Debono, 1985) and the argument that functional matching increases the depth of processing (Debono & Harnish, 1988). Opposed to the elaboration likelihood model perspective, advocates of the unimodel (Thompson, Kruglanski, & Spiegel, 2000) have proposed that functional matching increases the relevance of the information to the conclusions for the audience. More research is required in order to clarify the processes involved in the functional matching effect.

Conclusion

Although this meta-analysis is limited by the need for more primary research, it does demonstrate the power that functional matching can have. Although this branch of persuasion theory was under-researched in Katz's (1960) day, his prediction that functional matching would substantially increase our ability to persuade audiences has been verified by the growing body of research finding large effects consistent with his prediction. Despite the age of this approach,

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much research remains undone. Yet, if this meta-analysis is any indication, it is a fruitful avenue to explore.

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Table 1

Data for each study included in the meta-analysis

Author (Year)	Function	Type	N	reliability	r
Bazzini & Shaffer (1995)	social	SM	35	0.79	0.33
Bazzini & Shaffer (1995)	value	SM	35	0.79	0.33
Clary & Snyder (1993)	all	Measured	59		0.71
Clary, et al. (1994)	all	Measured	107		0.19
Debono (1987) Study 1	social	SM	40	0.93	0.73
Debono (1987) Study 1	value	SM	40	0.93	0.44
Debono (1987) Study 2	social	SM	10	0.93	0.72
Debono (1987) Study 2	value	SM	10	0.93	0.50
Debono (1989)	util	SM	23		0.06
Debono (1989)	social	SM	26		0.31
Debono & Harnish (1988)	social	SM	26		0.36
Debono & Harnish (1988)	util	SM	23		0.07
Debono & Packer (1991) Study 1a	util	SM	22		0.76
Debono & Packer (1991) Study 1a	social	SM	22		0.12
Debono & Packer (1991) Study 1b	util	SM	20		0.06
Debono & Packer (1991) Study 1b	social	SM	20		0.28
Debono & Snyder (1989)	social	SM	14		0.70
Debono & Snyder (1989)	util	SM	14		0.59
Dutta-Bergman (2003)	social	SM	23	0.79	0.19
Dutta-Bergman (2003)	util	SM	23	0.79	0.23
Hullet (2004) Study 1	value	Measured	75	0.87	0.36
Hullet (2004) Study 2	value	Measured	75	0.96	0.33
Hullett & Boster 2001	social	Personality	72	0.82	0.30
Julka & Marsh (2005)	know	Induced	28		0.84
Julka & Marsh (2005)	value	Induced	30		0.70
Lavine & Snyder (1996) Study 1	social	SM	58	0.76	0.23
Lavine & Snyder (1996) Study 1	value	SM	58	0.76	0.01
Lavine & Snyder (1996) Study 2	social	SM	35	0.76	0.28
Lavine & Snyder (1996) Study 2	value	SM	31	0.76	0.23
Petty & Wegener (1998) Study 1	util & social	SM	30	0.94	-0.15
Petty & Wegener (1998) Study 2	util & social	SM	62	0.94	0.25
Shavitt (1990)	util	Object	56	0.96	0.57
Shavitt (1990)	social	Object	56	0.96	0.48
Snyder & Debono (1985) Study 1	util & social	SM	50	0.92	0.28
Snyder & Debono (1985) Study 2	social	SM	38		0.31
Snyder & Debono (1985) Study 2	util	SM	38		0.34

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Snyder & Debono (1985) Study 3	social	SM	38	0.32
Snyder & Debono (1985) Study 3	util	SM	38	0.31

Note: The abbreviations for the Function column are “util” = utilitarian, “social” = social-adjustive, “value” = value-expressive, “know” = knowledge, “all” all functions were tested together. The abbreviations for the Type column refer to how the functions were assigned and are “SM” = self-monitoring scale, “measured” = measured the attitude functions directly, “other” = measured other-directedness as an indicator of social-adjustive attitudes, “induced” = frustrated each attitude to induce a motivation for that function, “object” = assigned functions based on the attitude objects themselves.