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Convergent and discriminant validity of opinion leadership: Multitrait-multimethod analysis across measurement occasion and informant type

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Abstract

Influential individuals, who shape the attitudes and behaviors of their peers, are termed opinion leaders. The interpretability of research on opinion leadership, however, has frequently been hampered by the use of divergent instruments that follow either a domain-specific view of opinion leadership or a more domain-independent trait conceptualization. In two studies, multitrait-multimethod matrices are analyzed regarding the convergent and discriminant validity of both approaches. Study I (N = 407) demonstrates the stability of the opinion leadership scales over time and their discriminant validity to established measures in personality (e.g., extraversion) and attitudinal research (e.g., involvement). Study II (N = 185) replicates these results in the form of a multitrait-multiinformant design, demonstrating high convergence of self- and peer assessments. However, different operationalizations of domain-independent opinion leadership displayed limited convergent validity, indicating that they capture different, albeit related, traits.

Keywords: opinion leadership, validity, multitrait-multimethod analysis, market maven, personality strength

Convergent and discriminant validity of opinion leadership: Multitrait-multimethod analysis across measurement occasion and informant type

Persuading others of one´s position constitutes a fundamental component of human interaction: politicians try to persuade their voters of their intentions, salesmen persuade their customers of their products, physicians persuade their patients of beneficial health behavior etc. Unlike few other psychological traits, opinion leadership has exerted a major influence in numerous settings, including such diverse disciplines as health sciences, marketing, communication sciences as well as applied diffusion research (e.g., Lam & Schaubroeck, 2000; Ruvio & Shoham, 2007; Vishwanath, 2006). In the past, opinion leaders have been identified with rather diverse techniques (cf. Valente & Pumpuang, 2007). Little is known about the degree to which they all tap into the same construct. Furthermore, in addition to opinion leadership as a primarily domain-specific construct, miscellaneous related traits have been proposed, which represent variants of a generalized, domain-independent form of opinion leadership (Feick & Price,1987; Noelle-Neumann, 1983). To date, it has not been clarified to what degree these constructs are related to each other as well as to the domain-specific understanding of opinion leadership. Hence, the present studies explicitly address the neglected aspect of convergent validity of different approaches to capture opinion leadership. In particular, we aim to quantify (a) the convergent validity of different operationalizations of domain-specific and domain-independent opinion leadership, and (b) the discriminant validity of opinion leadership for established constructs in personality and attitudinal research.

Scope of influence

Research on opinion leadership dates back to the seminal works of Lazarsfeld, Berelson, and Gaudet (1944), who demonstrated that within a given social entity not all individuals exert an equal amount of influence on attitudes and behaviors of other members

of a group. Rather, there is ample evidence of stable individual differences in the ability to influence others. Those individuals who are able to informally shape attitudes, opinions and overt behavior of their social environment more frequently and more strongly than others are usually termed opinion leaders (Rogers & Cartano, 1962). Despite over six decades of research on opinion leadership, the scope of their influence is still disputed. Merton (1957) distinguishes between two types of opinion leaders. Monomorphic opinion leaders exert their influence in a strongly limited area of interest, while polymorphic opinion leaders exert their influence over a broad range of different areas. For a long time, opinion leadership was viewed solely as a monomorphic, domain-specific trait; that is, opinion leaders exert their influence within a small, confined topic (e.g., jazz) or category (e.g., music) only. According to this view, an overlap of different topics or categories seems rather unlikely. An individual who is an opinion leader on music is unlikely to be an opinion leader on politics as well. More recent approaches (Feick & Price, 1987; Noelle-Neumann, 1983; Wiesner, 2009), however, take up the idea of individuals who are able to exert their influence, independent of a specific area of interest, over different topics and categories. These authors support the notion that some kind of generalized, polymorphic opinion leadership trait exists as well. Although seemingly similar to leadership theories in organizational research (e.g. the concept of charismatic leadership), polymorphic opinion leadership does not characterize formal leaders who intentionally try to influence others by distributing rewards or punishments, but refers to a set of unique personal characteristics, a distinct personality trait, that provides individuals with a potential to *informally* influence others. Generally, monomorphic and polymorphic opinion leadership are viewed as two different, but related constructs (Clark & Goldsmith, 2005; Weimann, 1991). Monomorphic opinion leadership can be separated into a domain-specific part, representing the predisposition to reengage with a certain area over time in the form of involvement or

competence, and a domain-independent part in terms of a specific personality structure represented by the polymorphic opinion leadership trait.

Methods of measuring opinion leadership

All currently available instruments to identify monomorphic opinion leaders originate from Lazarsfeld et al. (1944), who defined two dimensions of the trait: ”convincing others” and ”being asked for advice”. As their original index was repeatedly criticized on statistical grounds and due to poor validity (Rogers & Cartano, 1962), subsequently, numerous alternative scales were constructed, from which those by Childers (1986) and Flynn, Goldsmith and Eastman (1996) are the most popular in practice. The postulated influence of monomorphic opinion leaders identified by these instruments on their social surroundings have since then been empirically confirmed for various areas of interest in different settings (e.g., Lam & Schaubroeck, 2000; Vishwanath, 2006).

A first attempt to operationalize a variant of polymorphic opinion leadership was undertaken by Noelle-Neumann (1983), with the construct of personality strength. Although she does not claim to measure polymorphic opinion leadership itself, but rather a related trait in the form of general influentials, individuals high in personality strength have certain characteristic attributes typical for opinion leaders. In contrast to monomorphic opinion leadership, personality strength does not focus on a specific advice-giving function, but tries to identify highly active and influential individuals with charisma and assertiveness (Weimann, Tustin, Vuuren, & Joubert, 2007). The personality strength scale therefore includes, like instruments measuring monomorphic opinion leadership, items of giving advice, but additionally includes numerous items resembling the trait of extraversion.

For consumer research, the construct of market mavens (Feick & Price, 1987) has been developed. Market mavens are consumers who have ”information about many kinds of products, places to shop, and other facets of markets, and initiate discussions with consumers and respond to requests from consumers for market information” (Feick & Price,

1987, p. 85). As they are considered good sources of information on the marketplace in general and do not necessarily have a product specific orientation, they are able to influence other consumers on a variety of products. However, market mavens are not a completely domain-independent influencer type, as their scope of influence is limited to consumer decisions. An application beyond the realm of consumer research to alternative persuasion scenarios (e.g., voting behaviour or leisure activities) does not seem appropriate due to the very specific item phrasings, which concentrate on the marketplace.

Not until recently has the concept of polymorphic opinion leadership been explicitly addressed and operationalized as a completely domain-independent personality trait (Wiesner, 2009). The Generalized Opinion Leadership (GOL) scale distinguishes five facets that are determined by a higher-order main factor. Beyond their ability to influence other's opinions and behaviors and giving frequent advice and information about different topics to other members of their social group, polymorphic opinion leaders sensu Wiesner (2009) act as gatekeepers by functioning as bridges between different social networks and deciding which information to pass on and which not. Hence, to a certain degree, they determine which topics in their social group are prevalent and currently discussed. Due to their central network position, they try to confirm existing values and norms to achieve harmony within their social circle. Additionally, opinion leaders act as role models for others, and legitimate attitudes and behaviors, especially in uncertain situations. Together, these five facets form an index of polymorphic opinion leadership.

So far, little is known about the degree to which these instruments capture the same construct or whether they operationalize different, but related traits. Additionally, discriminant validity of opinion leadership for established constructs in personality and attitudinal research has received little attention so far. Extraversion, the construct of the Big Five with which polymorphic opinion leadership seems to be related the most strongly in theoretical terms, can be distinguished relatively clearly in the light of empirical correlations

of about .22 (Mooradian,1996). However, it is debatable to what degree monomorphic opinion leadership can, in fact, be distinguished from involvement or expertise considering correlations of up to .70, which have been reported in the past (Flynn & Goldsmith, 1999; Schenk, 2005). Involvement and expertise are usually considered to correlate with opinion leadership but to represent different constructs. In communication research, for example, "issue publics" (Converse, 1964) refer to individuals who are strongly involved with a certain political agenda and usually also know more about it. However, they are not necessarily more influential than other members in their social group – the central characteristic of opinion leadership.

Overview

The aims of the two studies are threefold. Firstly, we seek to establish the convergent validity of different measures of monomorphic and polymorphic opinion leadership to determine whether these instruments do in fact operationalize the same constructs or different but related constructs. Secondly, we aim to demonstrate the discriminant validity of polymorphic opinion leadership and assertiveness, the facet of extraversion, with which opinion leadership is supposedly linked the strongest, as well as of monomorphic opinion leadership and involvement/expertise. Thirdly, we intend to clarify the relationship between monomorphic and polymorphic opinion leadership by deriving an unbiased estimate of the true correlation between the two related constructs.

Study I: Multitrait-multioccasion analysis

Method

Sample and procedure

The sample consisted of 407 participants (258 women)[1] from Germany aged from 18 to 75 years (M = 35.23, SD = 12.18). The participants were generally well educated, with over two thirds having an advanced level of secondary school education and 31% possessing a university degree. The participants were recruited via a market research panel

and completed three online questionnaires identical in content at an interval of four (T2) and twelve weeks (T3).

| Insert table 1 about here |

Instruments

Assertiveness was assessed with six items from the International Personality Item Pool (Goldberg et al., 2006), polymorphic opinion leadership was measured with 22 items by Wiesner (2009), and monomorphic opinion leadership in the domain of movies was operationalized with six items by Flynn et al. (1996). All items had to be answered on five-point scales from ”agree completely” to ”do not agree at all”. Furthermore, involvement was measured with the revised Personal Involvement Inventory (McQuarrie & Munson, 1991) by a semantic differential, with seven items to be answered on a seven-point response scale (see table 1).

Analytical strategy

The multitrait-multimethod analyses are conducted according to the taxonomy of Widaman (1985) on the basis of structural equation models. This allows for the specification of different hierarchically nested models and the testing of the fit of competing models to determine the model with the best fit. Furthermore, specific model comparisons can be formulated in order to explicitly test the amount of convergent and discriminant validity. Convergent validity tests the degree to which the covariance between two measures is uniquely explained by trait factors. For this purpose, the best fitting model is compared to a model without trait factors. If the latter does fit comparably well to the data, there would be little to indicate the trait factors and convergent validity. Discriminant validity can be analyzed for each trait combination separately by comparing the best fitting model with alternative models that impose stronger trait restrictions. If such a model fits as well to the

data as the unrestricted model, discriminant validity between the restricted traits cannot be assumed.

Due to the large number of items, we did not use single items as factor indicators but rather the respective scale scores as the sole manifest indicator. Measurement error was incorporated by fixing the residuals of the indicators to a value of one minus the scale reliability (Cronbach´s alpha), multiplied by its variance. This approach results in estimates of the structural coefficients comparable to modeling single items or parcels (Sass & Smith, 2006), but reduces the number of parameters to be estimated and therefore leads to more parsimonious models. Model comparisons are based on the test of small differences (a non-central χ^2 statistic) as proposed by MacCallum, Browne, and Cai (2006), which tests the hypothesis that two models would fit the empirical data ”well enough”, as the assumption that two hierarchically nested models would fit exactly the same in the population, as it is assumed for the traditional χ^2 difference test, is unrealistic in practice (cf. Bentler, 2007). As a “small difference” in terms of MacCallum et al. (2006) we specified a RMSEA-difference of .01.

Results and discussion

In accordance with Widaman (1985), we first determined the model that best fit the data based on the parsimony criterion. A model with four correlated traits and three method factors (model 1 in table 2) represented the data the best[2]. Thus, this model will act as baseline model for model comparisons to analyze the convergent and discriminant validity of the scales.

| Insert table 2 about here |

Convergent validity.

To test the convergent validity of the traits, the baseline model was compared to model 2 (see table 2), which specified method factors (i.e. the measurement occasions) only. As the former provides a significantly better fit to the data, the covariation of the data has to be attributed, at least partly, to the traits. Convergent validities of the constructs can be further tested by fixing the factor loadings of the three measurement occasions to 1 (indicating essentially tau-equivalency) or additionally constraining the respective error variances to unity (indicating parallel test equivalency) and comparing these models to the baseline model (cf. Graham, 2006). For both opinion leadership traits – polymorphic, $\Delta\chi^2(4, ncp = 21) = 35$, $p = .14$, and monomorphic opinion leadership, $\Delta\chi^2(4, ncp = 21) = 11$, $p = .95$ - parallel test equivalency was supported. Hence, the measurement structures do not change significantly over time.

Discriminant validity.

To determine the degree to which different constructs were captured, two constrained models were specified, for which the correlations between polymorphic opinion leadership and assertiveness (model 3) and monomorphic opinion leadership and involvement (model 4) were fixed to 1. If two latent constructs are indeed indiscriminable, they not only have to display a high or even perfect correlation with each other but, additionally, should exhibit the same correlations with other constructs in the model. Hence, their nomological net should also be identical (see Sluis, Dolan, & Stoel, 2005). Therefore, the correlations with the remaining constructs in the model were set equal for the two constrained traits. If these models fitted better or comparably well to the data, like the unconstrained baseline model, a discrimination between the traits could not be assumed. However, both models displayed significantly, $p < .001$, worse model fits. Even when removing the bias specific to the measurement occasion, the opinion leadership traits measure related, but not identical, constructs to assertiveness and involvement (see table 3).

| Insert table 3 about here |

Study II: Multitrait-multiinformant analysis

Method

Sample and procedure

Participants of the study were recruited at the campus of a medium-sized university and among the acquaintances of the first author. They completed a self-report questionnaire and named a close acquaintance, who provided peer ratings on the same instrument. Altogether, data of 185 participants (102 women)[1] with a mean age of $M = 29$ ($SD = 12.47$) were collected. The participants were highly educated, with 35% having an advanced level of secondary school education and an additional 19% possessing a university degree.

| Insert table 4 about here |

Instruments

Polymorphic opinion leadership was assessed in three ways: (a) as generalized opinion leadership (GOL) with 22 items (Wiesner, 2009), (b) as personality strength (Noelle-Neumann, 1983) with ten items and, (c) as market mavenism (Feick & Price, 1987) with six items. The GOL and market maven scales had to be answered on five-point response scales from ”strongly disagree” to ”strongly agree”. In line with previous research (Schenk & Rössler, 1997; Weimann, 1991; Weimann et al., 2007), personality strength was assessed dichotomously and the scale score calculated on the basis of the items weighted by their respective discrimination indices.

Monomorphic opinion leadership in the domain of movies was measured with two instruments:(a) six items by Childers (1986) and (b) six items by Flynn et al. (1996). The

items of the scale by Flynn et al. (1996) were answered on five-point response scales from ”strongly disagree” to ”strongly agree”.

Expertise was assessed using a newly constructed scale with five items, on which the subjective knowledge about movies (e.g., ”I know a lot about movies of different genres”) had to be rated. The items were answered on five-point response scales from ”strongly disagree” to ”strongly agree” (see table 4).

Results and discussion

We first determined the best fitting model on the basis of parsimony by adopting a model with six correlated traits and two methods as baseline model (model 1 in table 5)[2].

| Insert table 5 about here |

Convergent validity.

To estimate the convergent validity, the baseline model was compared to model 2, a model with method factors only. The former fitted the data significantly better, indicating that the covariation in the data is to be attributed (at least partly) to the trait factors. As in study I, we also analyzed the measurement structure of the traits across informants. For GOL, $\Delta\chi^2(1, ncp = 6) = 4$, $p = .67$, market mavenism, $\Delta\chi^2(1, ncp = 6) = 4$, $p = .67$, and the monomorphic opinion leadership scale by Flynn et al. (1996), $\Delta\chi^2(1, ncp = 6) = 14$, $p = .10$, essentially tau-equivalency was supported. Hence, self and peer reports captured the traits comparably. The results for personality strength, $\Delta\chi^2(1, ncp = 6) = 20$, $p = .02$, and the instrument by Childers (1986), $\Delta\chi^2(1, ncp = 6) = 24$, $p = .01$, on the other hand, indicated slightly different measurement scales for the two informant groups.

Discriminant validity.

To determine the discriminant validity of the traits we specified different models, which fixed the correlations between two trait pairs at 1 (see table 5). The constrained

model 3 for GOL and market mavenism displayed a comparably good fit as the baseline model 1, indicating that the two instruments measure the same construct. Comparable constraints for personality strength, on the other hand, lead to significantly worse model fits. This instrument seems to operationalize an alternative construct, which is highly correlated with GOL (r = .78) and market mavenism (r = .58), but is not identical to them. Model 6, with constraints for the two monomorphic opinion leadership scores, resulted in a comparable fit as the baseline model, indicating that the instruments by Childers (1986) and Flynn et al. (1996) indeed operationalize the same construct. Finally, the constrained models 7 and 8, which fix the correlations between monomorphic opinion leadership and expertise to one, yielded slightly worse model fits. Hence, although monomorphic opinion leadership and expertise correlate highly (see table 6), they can still be separated statistically.

| Insert table 6 about here |

Overall discussion

The multitrait-multimethod analysis over different measurement points and different informants provided three major results regarding the trait of opinion leadership: Firstly, the two types of opinion leadership, the domain-independent, polymorphic approach, and the domain-specific, monomorphic approach, both represent stable individual differences over time and informants, which are averagely correlated. Secondly, the convergent validity of the two instruments for measuring monomorphic (Childers, 1986; Flynn et al., 1996) and two measures of polymorphic opinion leadership, GOL (Wiesner, 2009) and market mavenism (Feick & Price, 1987), could be confirmed, while personality strength (Noelle-Neumann, 1983) operationalizes a slightly different version of polymorphic opinion leadership, which is correlated but not identical to the other two. Thirdly, the discriminant validity of polymorphic opinion leadership and assertiveness as well as monomorphic

opinion leadership and involvement, was unambiguously confirmed. However, the information gain provided by the latter over expertise remains in doubt.

Due to the rather heterogeneous areas in which opinion leadership is applied and the different objectives for which it is used, the area of opinion leadership research is currently rather scattered. Researchers often operate with slightly varying construct definitions and consequently different operationalizations of opinion leadership, which impede the formulation of general conclusions about the opinion leadership trait. Therefore, it seems all the more important to achieve a consolidation of the area in the form of meta-analytical overviews and quantitative method comparisons, in order to integrate results from different individual studies and advance theory development. As long as researchers work with different instruments, unaware of whether, or rather to what degree, they operationalize the same or simply related constructs, it is difficult to reach general conclusions about the typology, behavior and area of influence of opinion leaders. Our studies provide a contribution in this area by advancing our knowledge regarding the convergent and discriminant validity of currently available self-report scales in opinion leadership research.

The results of the studies hold several important implications for applied practice. Regarding monomorphic opinion leadership, the MTMM analysis demonstrated that the currently most popular scales by Childers (1986) and Flynn et al. (1996) do indeed operationalize the same trait. However, although the two scales can be differentiated statistically from expertise, they are strongly correlated (.87 and .77 respectively) – even when removing an artificial inflation due to a mono-method bias as in study II. Hence, it is doubtful whether there remain relevant differences between the two constructs. For practical purposes, it might be debatable whether monomorphic opinion leadership provides meaningful additional information beyond expertise, for example, to conduct consumer segmentations or to identify individuals who shape voting decisions of their fellow citizens.

Regarding polymorphic opinion leadership, market mavenism and GOL capture the same latent trait. Personality strength, although seemingly quite similar to GOL, turns out to be a different case. On the one hand, our results indicate that personality strength is indeed strongly related to GOL and market mavenism. On the other hand, however, it exhibits a different nomological net and is uncorrelated with monomorphic opinion leadership. Although monomorphic and polymorphic opinion leadership conceptualize different types of traits, they are not assumed to be independent. Rather they can be visualized in terms of a hierarchical personality model in which polymorphic opinion leadership as the superordinate, more abstract trait determines (at least partly) monomorphic opinion leadership (e.g., Clark & Goldsmith, 2005; Ruvio & Shoham, 2007). Personality strength does not seem to represent the domain-independent trait component of monomorphic opinion leaders like the other two constructs do. Therefore, personality strength cannot be viewed as an identical trait to GOL or market mavenism. Sometimes, personality strength is not discussed in terms of an actual psychological trait, but rather as a combination of social and individual characteristics in the form of various social skills and competencies (Schenk & Rössler, 1997), and aims at identifying individuals with certain network characteristics (e.g., high centrality). In this regard, the personality scale is quite successful. Individuals high in personality strength do indeed possess a greater circle of friends and assume more central positions in their social networks (Schenk & Rössler, 1997; Weimann, 1991). Although the network position seems to be one aspect of opinion leadership, it is insufficient to cover their specific personality profile as captured by monomorphic opinion leadership. In particular, GOL, as an explicitly multidimensional construct with different facets, and to a lesser degree market mavenism incorporate these personality attributes as well. Therefore, the GOL scale can be viewed as the most general of the three instruments to measure polymorphic opinion leadership, while market mavenism represents a special

variant, identifying generalized opinion leaders in the marketplace. As GOL does not impose this domain restriction it can be used to identify polymorphic opinion leaders independently of a certain domain, for example, in politics and health care as well.

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Footnotes

[1] A detailed description of the sample is presented in table S1 of the online supplement.

[2] All models were also recalculated with sex and age as covariates. As these did not yield substantively different results they are not presented here but summarized in the online supplement.

Table 1.

Descriptive statistics and correlations in study I

	Time 1				Time 2				Time 3			
	AS	PO	MO	IN	AS	PO	MO	IN	AS	PO	MO	IN
Time 1												
AS	*.72*											
PO	.52*	*.91*										
MO	.09	.25*	*.86*									
IN	.04	.03	.46*	*.88*								
Time 2												
AS	.80*	.48*	.09	.05	*.74*							
PO	.47*	.82*	.27*	.04	.54*	*.91*						
MO	.11*	.29*	.75*	.47*	.16*	.33*	*.88*					
IN	.07	.05	.39*	.69*	.10*	.06	.47*	*.90*				
Time 3												
AS	.77*	.48*	.10	.09	.82*	.48*	.20*	.07	*.77*			
PO	.44*	.76*	.29*	.03	.48*	.84*	.33*	.00	.57*	*.92*		
MO	.10*	.26*	.73*	.45*	.14*	.31*	.70*	.40*	.19*	.36*	*.86*	
IN	.03	.05	.41*	.70*	.07	.02	.46*	.73*	.09	.06	.45*	*.90*
M	2.98	3.05	2.99	4.68	2.98	3.06	2.96	4.70	3.01	3.05	2.97	4.69
SD	0.66	0.49	0.87	0.67	0.66	0.49	0.89	0.70	0.67	0.51	0.85	0.74

Notes. N = 407,Cronbach´s Alpha are italic in main diagonal; AS ... Assertiveness, PO ... Polymorpic opinion leadership, MO ... Monomorphic opinion leadership, IN ... Involvement; Correlations between different scales and different measurement occasions are in gray; validity coefficients, correlations between same scales and different measurement occasions, represent the black diagonals in the gray blocks

* $p < .05$

Table 2.

Model comparisons in study I

		X^2	*df*	RMSEA	90% CI	CFI	$\Delta\chi^2$	Δdf	ncp	*p*
1.	Baseline model	62	33	.05	[.03,.06]	.99				
2.	No traits, methods only	4829	51	.48	[.47,.49]	.00	4767	18	19	<.001
3.	Polymorphic opinion leadership and assertiveness constrained	1024	38	.25	[.24,.27]	.74	957	5	10	<.001
4.	Monomorphic opinion leadership and involvement constrained	638	38	.20	[.18,.21]	.84	581	5	10	<.001

Notes. N = 407. 90% CI … 90% confidence interval for RMSEA, $\Delta\chi^2$ … χ^2 difference to model 1, Δdf … difference in number of degree of freedom to model 1, ncp … non-centrality parameter of the χ^2 distribution

Table 3.

Parameter estimates of the baseline model in study I

	Correlations			
	1.	2.	3.	4.
1. Assertiveness	1.00			
2. Polymorphic opinion leadership	.61*	1.00		
3. Monomorphic opinion leadership	.18*	.38*	1.00	
4. Involvement	.08	.03	.58*	1.00
Measurement time	*Factor loading*			
T1 (fixed)	1.00	1.00	1.00	1.00
Standardized	*.99*	*.90*	*.89*	*.88*
T2	1.02*	1.09*	1.11*	1.09*
Standardized	*.99*	*1.00*	*.96*	*.89*
T3	1.05*	1.04*	1.03*	1.16*
Standardized	*.99*	*.91*	*.94*	*.90*

Notes. $N = 407$

* $p < .05$

Table 4.

Descriptive statistics and correlations in study II

	Self-Report						Peer-Report					
	OP	PS	MM	OP_{CH}	OP_{FL}	EX	OP	PS	MM	OP_{CH}	OP_{FL}	EX
Self												
OP	*.88*											
PS	.56*	*.78*										
MM	.51*	.39*	*.84*									
OP_{CH}	.34*	.09	.26*	*.87*								
OP_{FL}	.31*	.11	.28*	.75*	*.81*							
EX	.26*	.12	.16*	.74*	.58*	*.86*						
Peer												
OP	.45*	.43*	.31*	.17*	.15*	.12	*.91*					
PS	.30*	.47*	.30*	.09	.01	.08	.62*	*.78*				
MM	.28*	.26*	.40*	.21*	.19*	.19*	.49*	.38*	*.88*			
OP_{CH}	.29*	.12	.19*	.60*	.47*	.51*	.40*	.24*	.35*	*.88*		
OP_{FL}	.22*	-.01	.11	.53*	.49*	.44	.39*	.25*	.25*	.72*	*.82*	
EX	.20*	.03	.14*	.55*	.47*	.63*	.25*	.18*	.28*	.74*	.57*	*.89*
M	3.03	2.10	2.84	3.16	2.95	2.62	3.19	2.17	3.01	3.21	3.16	2.79
SD	0.45	0.29	0.80	0.87	0.86	0.90	0.52	0.29	0.88	0.85	0.81	0.91

Notes. N = 185,Cronbach´s Alpha are italic in main diagonal; OP ... Generalized opinion leadership, PS ... Personality strength, MM ... Market mavenism, OP_{CH} ... Opinion leadership (Childers, 1986), OP_{FL} … Opinion leadership (Flynn et al., 1996), EX … Expertise; Correlations between different scales by different informants are in gray; validity coefficients, correlations of the same scales between different informants, represent the black diagonals in the gray blocks

* $p < .05$

Table 5.

Model comparisons in study II

	Model	χ^2	*df*	RMSEA	90% CI	CFI	$\Delta\chi^2$	Δdf	ncp	*p*
1.	Baseline model	36	26	.05	[.00,.08]	.99				
2.	No traits, methods only	1943	53	.44	[.42,.46]	.00	1907	27	23	<.001
3.	GOL and market mavenism constrained	48	31	.05	[.02,.08]	.99	12	5	9	.54
4.	GOL and personality strength constrained	76	31	.09	[.06,.11]	.96	40	5	9	<.01
5.	Market mavenism and personality strength constrained	75	31	.09	[.06,.11]	.96	39	5	9	<.01
6.	Monomorphic opinion leadership scales constrained	44	31	.05	[.00,.08]	.99	8	5	9	.79
7.	Monomorphic opinion leadership (Childers, 1986) and expertise constrained	66	31	.08	[.05,.10]	.99	30	5	9	.02
8.	Monomorphic opinion leadership (Flynn et al., 1996) and expertise constrained	69	31	.08	[.06,.11]	.99	33	5	9	.01

Notes. N = 185. GOL … Generalized opinion leadership, 90% CI … 90% confidence interval for RMSEA, $\Delta\chi^2$ … χ^2 difference to model 1, Δdf … difference in number of degree of freedom to model 1, ncp … non-centrality parameter of the χ^2 distribution

Table 6.

Latent factor correlations for the baseline model in study II

	Correlations					
	1.	2.	3.	4.	5.	6.
1. Generalized opinion leadership	1.00					
2. Personality strength	.78*	1.00				
3. Market mavenism	.73*	.58*	1.00			
4. Opinion leadership (Childers, 1986)	.42*	.15	.38*	1.00		
5. Opinion leadership (Flynn et al., 1996)	.40*	.08	.37*	.93*	1.00	
6. Expertise	.29*	.12	.26*	.87*	.77*	1.00
Informant	*Factor loading*					
Self (fixed)	1.00	1.00	1.00	1.00	1.00	1.00
Standardized	*.89*	*1.00*	*.87*	*1.00*	*.95*	*.98*
Peer	.78*	.61*	.67*	.67*	.69*	.77*
Standardized	*.59*	*.60*	*.53*	*.68*	*.68*	*.73*

Notes. $N = 185$

* $p < .05$

Online supplement

Table S1

Socio-demographic composition of the samples

	Study I						Study II					
	Total		Female		Male		Total		Female		Male	
Age groups												
18 – 30	178	(44%)	135	(33%)	43	(11%)	129	(70%)	75	(41%)	54	(29%)
31 – 40	99	(24%)	54	(13%)	45	(11%)	20	(11%)	5	(3%)	15	(8%)
41 – 50	79	(19%)	46	(11%)	33	(8%)	18	(10%)	12	(7%)	6	(3%)
51 – 60	37	(9%)	15	(4%)	22	(5%)	17	(9%)	10	(5%)	7	(4%)
61 – 75	14	(3%)	8	(2%)	6	(2%)	1	(1%)	0	(0%)	1	(1%)
Educational level												
Secondary School	125	(30%)	87	(22%)	38	(10%)	73	(46%)	39	(25%)	34	(21%)
Advanced level of secondary school	156	(38%)	103	(25%)	53	(13%)	56	(35%)	31	(20%)	25	(16%)
University degree	126	(31%)	68	(17%)	58	(14%)	30	(19%)	13	(8%)	17	(11%)
Total	407		258	(64%)	149	(37%)	185		102	(55%)	83	(45%)

Table S2.

Model comparisons in study I with sex and age as covariates

		χ^2	*df*	RMSEA	90% CI	CFI	$\Delta\chi^2$	Δdf	ncp	*p*
1.	Baseline model	58	33	.04	[.02, 06]	.99				
2.	No traits, methods only	4704	51	.48	[.47, .49]	.00	4646	18	19	< .001
3.	Polymorphic opinion leadership and assertiveness constrained	1015	38	.25	[.24, .27]	.73	957	5	10	< .001
4.	Monomorphic opinion leadership and involvement constrained	639	38	.20	[.19, .21]	.83	581	5	10	< .001

Notes. N = 407. 90% CI … 90% confidence interval for RMSEA, $\Delta\chi^2$ … χ^2 difference to model 1, Δdf … difference in number of degree of freedom to model 1, ncp … non-centrality parameter of the χ^2 distribution

Results are based on the partial correlation matrix with sex and age as covariates.

Table S3.

Model comparisons in study II with sex and age as covariates

	Model	χ^2	*df*	RMSEA	90% CI	CFI	$\Delta\chi^2$	Δdf	ncp	*p*
1.	Baseline model	33	26	.04	[.00, .08]	.99				
2.	No traits, methods only	1612	53	.44	[.42, .46]	.00	1479	27	23	< .001
3.	GOL and market mavenism constrained	45	31	.06	[.01, .09]	.98	12	5	9	.54
4.	GOL and personality strength constrained	59	31	.08	[.05, .11]	.97	26	5	9	.05
5.	Market mavenism and personality strength constrained	68	31	.09	[.06, .12]	.96	35	5	9	< .01
6.	Monomorphic opinion leadership scales constrained	43	31	.05	[.00, .08]	.99	10	5	9	.67
7.	Monomorphic opinion leadership (Childers, 1986) and expertise constrained	64	31	.08	[.05, .11]	.96	31	5	9	.02
8.	Monomorphic opinion leadership (Flynn et al., 1996) and expertise constrained	67	31	.09	[.06, .12]	.96	34	5	9	.01

Notes. N = 185. GOL … Generalized opinion leadership, 90% CI … 90% confidence interval for RMSEA, $\Delta\chi^2$ … χ^2 difference to model 1, Δdf … difference in number of degree of freedom to model 1, ncp … non-centrality parameter of the χ^2 distribution

Results are based on the partial correlation matrix with sex and age as covariates.