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Reviewed work(s):
Source: *Acta Sociologica*, Vol. 37, No. 2 (1994), pp. 195-206
Published by: Sage Publications, Ltd.
Stable URL: http://www.jstor.org/stable/4200897
Accessed: 08/12/2011 09:00

The Influence of Social Support, Suggestion and Depression on Suicidal Behavior Among Icelandic Youth

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Durkheim's treatment of the social causes of suicide has remained central to sociological theory in general and to sociological treatment of suicide in particular. The two main alternative paradigms for understanding suicide are suicide suggestion and depression. Both these paradigms are derived from 19th-century perspectives rejected by Durkheim. In this paper an attempt is made to bring them together in a single causal model of suicidal behavior involving integration, suggestion and psychological distress. It is argued that social support is in fact the main protective aspect of social integration, and that social support may in conjunction with suicide suggestion influence suicidal behavior both directly and indirectly through depression. Survey data on the whole population of Icelandic youth in two cohorts are split randomly into model estimation and model testing samples. A causal model of suicidal behavior, involving mental and material support by family and by others, depression and suicide suggestion is then estimated and tested by structural equation modeling. Suicidal behavior is found to be most strongly affected by mental support by family and by suicide suggestion, with depression as an intervening variable.

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A century after the 1897 publication of *Suicide: A Study in Sociology*, Durkheim's (1987) treatment of integration and regulation as the twin social causes of suicide still enjoys attention far beyond the call of historic gratitude. It has remained central to sociological theory in general and to sociological treatment of suicide in particular. A number of the late 19th-century perspectives on suicide causation analyzed and subsequently rejected by Durkheim have, however, also continued to influence suicide research. In particular, the theory of suicide suggestion is firmly established within several disciplines and depression is the dominant paradigm for understanding suicide and suicide attempts within psychology. These traditions have evolved over the last century relatively isolated from one another, and no serious attempts have

been made to combine them into one coherent framework for explaining suicidal behavior.

1. The Durkheimian research traditions

Since Durkheim's time the quality and quantity of available data on his main indicators have improved greatly, and advances in methods for handling aggregate data have made far more rigorous tests of his results possible. The tradition of explicitly Durkheimian research has remained faithful to the use of aggregate data, relating suicide rates to various indicators of integration and regulation, such as rates of unemployment (e.g. Stack 1982; Platt 1984; Yang & Lester 1990), divorce (e.g. Stack 1981; Lester, Curran & Yang 1991) and

religiosity (e.g. Masumura 1977; Breault 1986; Stack 1991).

On the micro level, a number of implicitly Durkheimian scholars have expanded on the concepts of integration and regulation. Social control theory (Hirschi 1969) has, for instance, reformulated regulation as the result of *attachment* to the regulating group, *commitment* to receiving awards available to conforming members of the group, *involvement* in the activities of the group and *belief* in the value system of the group. This line of reasoning makes explicit what has in fact become the *oeuvre* of Durkheim, namely that regulation is the result of integration into a particular group or society. *Anomie* is of course still a household term in sociology, but increasingly it is conceived of as a result of insufficient regulation due to a breakdown in integration (e.g. Johnson 1965; Bille-Brahe & Wang 1985; Thorlindsson & Vilhjalmsson 1991). Integration into a non-regulative group is at least theoretically conceivable, while regulation by a group in the absence of sufficient integration into that group would be a form of oppression with the connotations of fatalistic rather than anomic suicide. Researchers studying suicide and other socio-psychological ailments within the Durkheimian tradition have increasingly focused on the protective rather than the regulative elements of integration, with particular emphasis on social support mechanisms.

Starting from a unified concept of social support, scholars have studied a multitude of different dimensions of social support, including *emotional support, instrumental support, informational support, economic support, tangible support, guidance* and *companion support* (e.g. Dean & Lin 1977; Cobb 1979; Schaefer Coyne & Lazarus 1981; Barrera & Ainley 1983; Norbeck & Tilden 1983; Stokes & Wilson 1984; Vilhjalmsson 1989, 1993). In the absence of any consensus on which of these, often overlapping, dimensions are the most useful, they can intuitively be collapsed into two broad categories of mental support and material support. Recent research suggests that perceived quality of mental support is a strong determinant of suicide potential (e.g. Topol & Reznikoff 1982; Bille-Brahe & Wang 1985; D'Attilio et al. 1991), but the possible effects of material support on suicide potential have received limited attention. The effect of social support on depression has been examined in detail (Vilhjalmsson 1993), but depression has been neglected as a mediator between social support and suicidal behavior.

2. Suicide suggestion

The main alternative to the integration approach to suicide within sociology is the theory of suicide imitation stemming from Tarde (1903), ironically popularized in sociology by Durkheim's rejection of the idea. In its modern form, appearing in slightly varying forms under labels such as suicide *contagion, suggestion, clustering* and the *Werther effect*, this tradition has dealt with the influence of actual and fictional suicide in the media (e.g. Motto 1970; Barraclough, Shepard & Jennings 1977; Phillips 1982; Gould & Shaffer 1986) as well as temporal, spatial and method-specific suicide clusters (e.g. Ashton & Donnan 1981; Church & Phillips 1984; Gould et al. 1990) and boomerang effects of suicide prevention programs (e.g. Lester 1972, 1992; Shaffer et al. 1990; Vieland et al. 1991). While acknowledging that the idea of suicide may be communicated among those already morally predisposed towards suicide, Durkheim (1987:140) states that 'imitation all by itself has no effect on suicide'. Durkheim also refuted insanity as a determinant of suicide, but noted that *melancholy* was intimately related to suicide, and should be viewed as deriving from anomie and egoism (1987:365).

3. Methodological considerations

The greatest obstacles to combining the main perspectives on suicide into a single framework have been methodological ones. On the macro level it is a virtually impossible task. Aggregate data on psychological conditions do not exist, and the time-span for indicators of suggestion and integration are incompatible. Macro analysis of suicide suggestion typically has a causal time-span

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of a few days, while changes in integration indicators have a time-span of years or even decades. The micro approach is not affected by these considerations, but it has different limitations. In clinical settings, archives are available to assess relevant factors retrospectively, but the cases involved may disproportionately include suicide victims with serious psychiatric disorders, and the control group will typically be non-suicidal psychiatric patients. The alternative approach of retrospective interviews with surviving friends and family members is fraught with a number of problems, such as teleological reasoning, systematic response bias and lack of an appropriate control group. Given these problems the researcher is generally faced with a small qualitative data set which cannot be profitably used to address issues such as relative impact of factors or direct and indirect effects.

The logical leap of faith from studying suicide to studying a broader category of suicidal behavior solves many of these problems. Even though the exact relation between suicidal ideation, planned, attempted and completed suicide is subject to considerable debate (Dorpat & Ripley 1967; Lester, Beck & Mitchell 1979; Hawton 1987; Harrington & Dyer 1993), it can be argued that from a theoretical as well as a practical point of view the full range of suicidal behavior is worth attention (Bjarnason & Thorlindsson 1994). Indeed, Durkheim (1987:45) argues that suicides are related to a continuous series of intermediate cases entailing mortal risks that result from similar states of mind. The study of how social forces influence suicide should thus not be confined to the extreme of lethal outcomes. Among the benefits from studying suicidal behavior rather than completed suicides is that victims can report their own perception of their circumstances, thus giving a much more direct measurement of the variables in question. Large-scale surveys can furthermore be conducted and quantitatively analyzed on a level impossible to achieve with either aggregate indicators or retrospective interview data.

In what follows, social support, suicide suggestion and depression will be incorporated into a single causal[1] model of suicidal behavior among adolescents. The

structural equations model with latent variables to be presented, estimated and tested is based on the hypothesis that these three factors all influence suicidal behavior directly, and that social support and suicide suggestion also influence suicidal behavior indirectly through depression.

4. Methods

4.1. Data
The data used in this study were obtained through anonymous questionnaires administered to all Icelandic ninth (born 1977) and tenth graders present in class on 12 March 1992. In Iceland, schooling is obligatory for these age groups. No follow-up attempt was made to reach absentees. Valid questionnaires were obtained from 7,018 individuals, which is 86.8 per cent of the total population in these two cohorts. The study can therefore be regarded as population based rather than based on a sample in the conventional sense.[2]

After listwise deletion of cases with missing values for variables included in the present analysis, a total of 6,431 cases remained. The data set was split by sex, and the pseudo-random number generator in SPSS (Norusis 1990) was employed to subdivide the data for each sex into two approximately equally sized samples. The raw data were transformed by PRELIS 2 (Jöreskog & Sörbom 1993a) into polychoric correlation matrices and asymptotic covariance matrices for *weighted least squares analysis* in LISREL 8 (Jöreskog & Sörbom 1993b).

4.2. Measures
In Table 1 the 13 indicators are listed by latent variables in a questionnaire, response categories and descriptive statistics for the estimation sample. Four different latent variables of social support are defined according to the source and function of support. A distinction is made between social support by family and social support by others. Mental support is indicated by a measure of emotional support and a measure of directive support in personal matters. Material support is indicated by measures of financial support and support through

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Table 1. *Descriptive statistics of Sample 1 of Icelandic adolescents.*

Variables	Female		Male		
	Mean	SD	Mean	SD	Range
ξ1 Mental support by family					
X1 How easy is it for you to get warmth and caring from your family?[a]	3.51	0.74	3.48	0.67	1–4
X2 How easy is it for you to get personal advice from your family?[a]	3.20	0.89	3.22	0.83	1–4
ξ2 Material support by family					
X3 How easy is it for you to borrow money from your family?[a]	3.22	0.80	3.13	0.84	1–4
X4 How easy is it for you to borrow things from your family?[a]	3.47	0.68	3.38	0.72	1–4
ξ3 Mental support by others					
X6 How easy is it for you to get warmth and caring from others than family?[a]	3.23	0.70	2.73	0.85	1–4
X6 How easy is it for you to get personal advice from others than family?[a]	3.30	0.74	2.87	0.83	1–4
ξ4 Material support by others					
X7 How easy is it for you to borrow money from others than family?[a]	2.75	0.88	2.54	0.89	1–4
X8 How easy is it for you to borrow things from others than family?[a]	3.24	0.75	3.00	0.80	1–4
ξ5 Suicide suggestion					
X9 Cumulative scale of suicide suggestion[b]	1.77	1.81	1.08	1.62	0–5
η1 Depression					
Y1 How often during the last week did you feel the future was hopeless?[c]	1.74	1.00	1.43	0.82	1–4
Y2 How often during the last week did you feel sad or blue?[c]	2.36	0.97	1.77	0.87	1–4
Y3 How often during the last week did you see no end to your difficulties?[c]	1.61	0.91	1.44	0.82	1–4
η2 Suicidal behavior					
Y4 Cumulative scale of suicidal behavior[d]	0.97	1.46	0.55	1.21	0–5

[a] Response categories
  1: Very difficult 2: Rather difficult 3: Rather easy 4: Very easy
[b] Response categories
  0: None
  1: Someone told you that he or she was considering suicide
  2: Someone you knew attempted suicide
  3: Someone you knew committed suicide
  4: A good friend or someone really close attempted suicide
  5: A good friend or someone really close committed suicide
[c] Response categories
  1: Never 2: Seldom 3: Sometimes 4: Often
[d] Response categories
  0: None
  1: Has thought of committing suicide
  2: Has seriously considered suicide
  3: Has told someone about considering suicide
  4: Has attempted suicide
  5: Has attempted suicide this semester

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borrowing objects. Depressive distress is tapped by the three general depression items of feeling sad or blue, feeling the future was hopeless and seeing no end to difficulties. Suicide suggestion is a cumulative measure constructed from five dichotomous items according to subjective closeness to victim and fatality of outcome. The ordering of items by severity of suggestive impact is based on the decision that verbal communication of intent represents the lowest impact, suicide attempts a medium impact, and completed suicide the strongest impact. Furthermore, suggestion is assumed to be stronger if the respondent has close relations with the victim. Suicidal behavior is also a cumulative measure constructed from five dichotomous items. The items are ordered by severity from mild suicidal ideation to actual attempt. The highest value is given for a suicide attempt made during the current semester.

The amount of variance in each indicator explained by the corresponding latent variable can be interpreted as a measure of reliability. The latent variables of suicide suggestion and suicidal behavior only have one indicator each and thus the corresponding measurement error variances are set to zero. As shown in Figures 2 and 3, reliabilities of the other indicators range from 0.64 to 0.83.

4.3. Statistical analysis
It was hypothesized that all measures of social support should negatively affect both depression and suicidal behavior, and suicide suggestion should positively affect both depression and suicidal behavior. Depression was hypothesized to have a strong positive effect on suicidal behavior, and the measures of social support and suicide suggestion should thus also have indirect effects on suicidal behavior through depression. This structural model is graphically represented in Figure 1.

The strategy of the statistical analysis is to estimate this model for males and females using the first split-half random samples, and trim the model for either sex to obtain the best fitting models with statistically significant ($t \geq 2.00$) parameters only. The appropriateness of the models is then tested by *fixing all parameters to the estimated*

values and re-running the analysis on the second split-half random samples. Error terms of identically worded questions will furthermore be allowed to correlate freely, so that, for example, perceived availability of financial support by family and perceived financial support by others are assumed to be correlated. A number of reasons could be given for this particular relation, such as identical wording effect, a pattern of social class of friends following social class of family or the attitude of each respondent towards borrowing money from anyone. Without choosing between such explanations, it is maintained that such error correlations are plausible for all four pairs of identically worded questions.

When estimating the models, simultaneous estimation of an identical factor structure of latent variables for males and females gave unsatisfactory results, and was thus abandoned. The models were then trimmed by setting non-significant parameters successively to zero and re-estimating the models.

5. Results

5.1. Model estimation
The estimated correlation matrix between the latent variables in the final female and male models is presented in Table 2. The highest correlations between latent variables are in the region of 0.60 between the two dimensions of social support by family, the two dimensions of social support by others and between depression and suicidal behavior. Mental and material support by family and suicide suggestion have a relatively strong correlation with depression and suicidal behavior. Suicide suggestion is negatively correlated with mental and material support by family, but positively correlated with mental and material support by others.

When estimating the causal model in Figure 1, mental support from family ($\xi 1$) is found to be the strongest social support variable, working against both depression ($\eta 2$) and suicidal behavior ($\eta 2$). Material support by family ($\xi 2$) and mental support by others than family ($\xi 3$) have at best a weak effect, and material support from
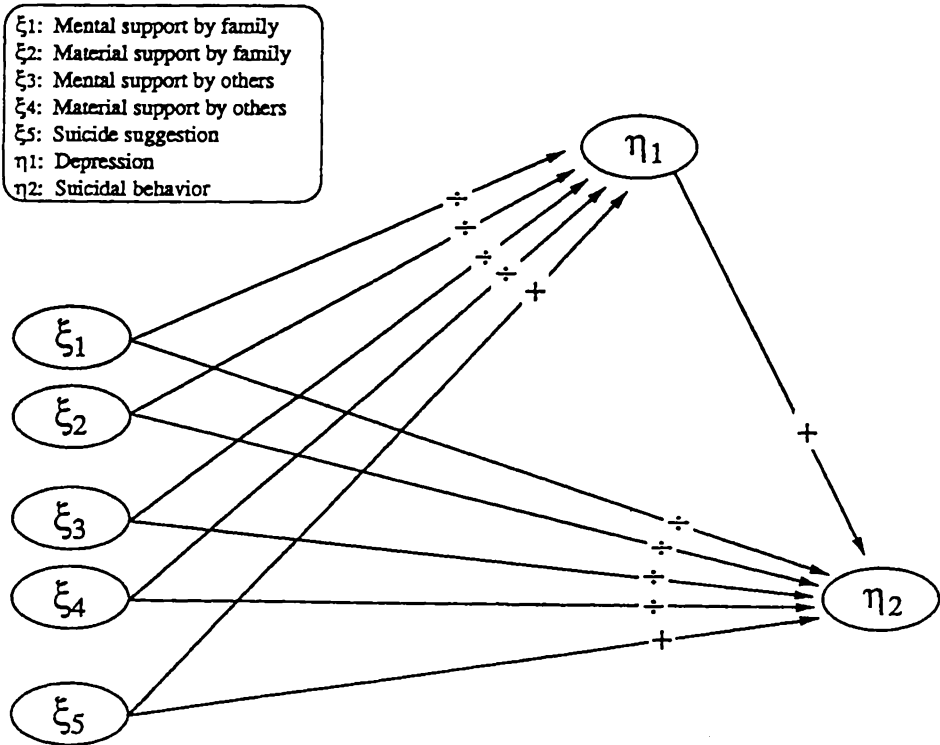
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Fig. 1. Hypothesized model of adolescent suicidal behavior.

ξ1: Mental support by family
ξ2: Material support by family
ξ3: Mental support by others
ξ4: Material support by others
ξ5: Suicide suggestion
η1: Depression
η2: Suicidal behavior

Table 2. *Correlations of latent variables in trimmed model.*

|	ξ1	ξ2	ξ3	ξ4	ξ5	η1
Females						
ξ1 Mental support by family	1.00	–	–	–	–	–
ξ2 Material support by family	0.63	1.00	–	–	–	–
ξ3 Mental support by others	0.37	0.37	1.00	–	–	–
ξ4 Material support by others	0.18	0.37	0.61	1.00	–	–
ξ5 Suicide suggestion	−0.12	−0.10	0.11	0.05	1.00	–
η1 Depression	−0.42	−0.34	−0.19	−0.12	0.24	1.00
η2 Suicidal behavior	−0.32	−0.24	−0.07	−0.04	0.30	0.62
Males						
ξ1 Mental support by family	1.00	–	–	–	–	–
ξ2 Material support by family	0.56	1.00	–	–	–	–
ξ3 Mental support by others	0.43	0.44	1.00	–	–	–
ξ4 Material support by others	0.28	0.48	0.60	1.00	–	–
ξ5 Suicide suggestion	−0.14	−0.04	0.07	0.08	1.00	–
η1 Depression	−0.32	−0.27	−0.14	−0.11	0.28	1.00
η2 Suicidal behavior	−0.27	−0.17	−0.05	−0.04	0.38	0.53
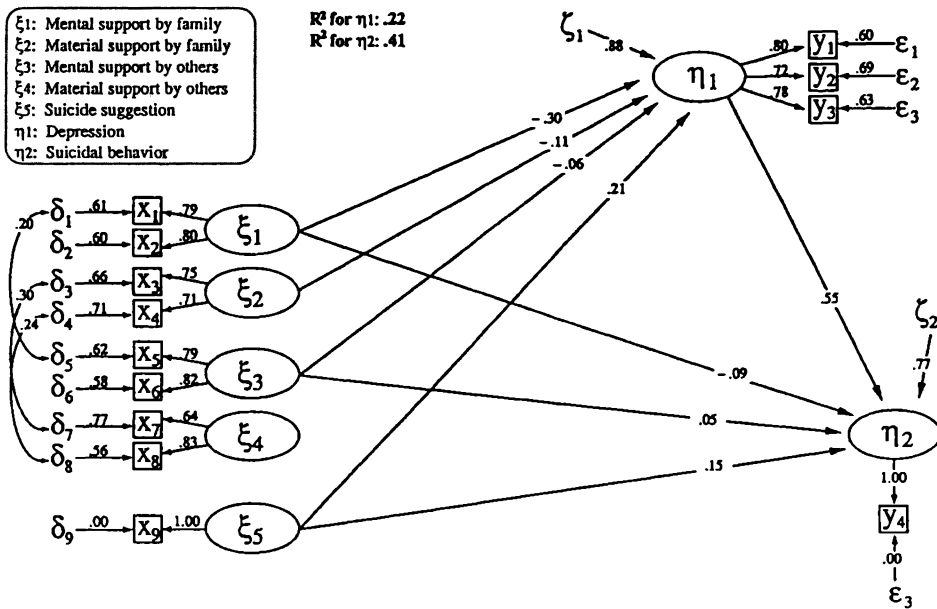
Fig. 2. Trimmed model of female adolescent suicidal behavior. (Note: The square root of all standardized error variances and covariances are presented as loadings.)

others than family ($\xi 4$) has no effect on depression and suicidal behavior for either sex. Suicide suggestion ($\xi 5$) is found to have a positive effect on both depression and suicidal behavior. Setting the question-wording error correlations equal to zero would not significantly change the estimation of any modeled path, but would seriously deteriorate the model fit for both females and males.

The final model for female suicidal behavior is shown in Figure 2.

The question-wording error correlation between δ_2 and δ_6 was non-significant and thus set to zero, as were the causal paths from material support by family to suicidal behavior and from material support by others than family to both depression and suicidal behavior. For females, mental support by others than family has a weak negative effect on depression, and a weak, but statistically significant, positive effect on suicidal behavior. The model reduces unexplained variance in suicidal behavior among females by 41 per cent.

The final model for male suicidal behavior presented in Figure 3 is analogous to the model for females with two exceptions.

First, all question-wording error correlations were found to be significant. Second, the path from mental support by others than family to depression is not statistically significant and is thus set to zero. The model reduces unexplained variance in suicidal behavior among males by 35 per cent.

In Table 3 the total effect of each latent variable on suicidal behavior is divided into direct and indirect effects.

Table 3 indicates that for females two-thirds of the negative effect of family mental support on suicidal behavior works indirectly through depression. In other words, family mental support has a rather weak direct effect on suicidal behavior, but a considerably stronger effect by diminishing depression which in turn leads to less suicidal behavior. For males, half the negative effect of family mental support on
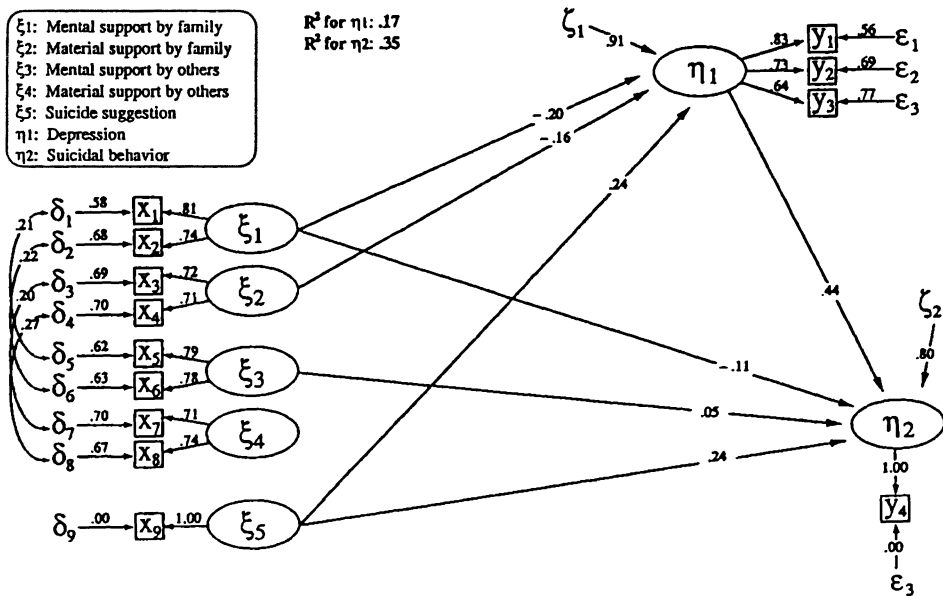
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Fig. 3. Trimmed model of male adolescent suicidal behavior. (Note: The square root of all standardized error variances and covariances are presented as loadings.)

suicidal behavior works through depression. For both females and males mental support of others than family has a weak, positive direct effect on suicidal behavior. In the case of females, however, such support also has a negative effect on depression, which leads to a negative indirect effect and mostly cancels out the positive direct effect on suicidal behavior.

Suicide suggestion has a moderate direct effect on suicidal behavior, considerably reinforced by the indirect effect through depression. Mental support by family and contact with suicidal behavior are the only exogenous variables to have a substantial total effect on suicidal behavior.

5.2. Model testing

Once the parameters of a structural model with latent variables have been estimated, they can be 'tested' by comparing the actual correlation or covariance matrix observed

Table 3. *Direct and indirect effects on suicidal behavior of females and males.*

	Females			Males		
	Direct effect	Indirect effect	Total effect	Direct effect	Indirect effect	Total effect
ξ1 Mental support by family	−0.09	−0.17	−0.26	−0.11	−0.09	−0.20
ξ2 Material support by family	–	−0.06	−0.06	–	−0.07	−0.07
ξ3 Mental support by others	0.05	−0.03	0.02	0.05	–	0.05
ξ4 Material support by others	–	–	–	–	–	–
ξ5 Suicide suggestion	0.15	0.12	0.27	0.24	0.11	0.35
η1 Depression	0.55	–	0.55	0.44	–	0.44

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Table 4. *Indices of goodness-of-fit for females and males.*

	Sample 1				Sample 2	
	Females		Males		Females	Males
	Untrimmed	Trimmed	Untrimmed	Trimmed	Fixed	
χ^2	120.1	123.0	109.6	112.2	147.8	262.3
Df	42	47	42	47	91	91
N	1637	1637	1582	1582	1627	1587
N crit.	903	965	956	1004	1378	758
SFR	−0.06	−0.06	−0.05	−0.05	−0.09	−0.11
LFR	0.06	0.06	0.06	0.07	0.07	0.10
RMR	0.02	0.02	0.02	0.02	0.03	0.03
RMSEA	0.03*	0.03*	0.03*	0.03*	0.02*	0.03*
AGFI	0.99	0.99	0.99	0.99	0.99	0.99

* *P* value for RMSEA < 0.05 = 1.00.

with the expected matrix that would have been observed if the model was a perfect representation of reality.

In this article the models estimated with Sample 1 will be tested by comparing the model implied matrix of polychoric correlations with the correlation matrix observed in Sample 2, thus circumventing the problem of using the same data for estimation and testing.

The traditional test in structural equation models is to perform a chi-square test of the null hypothesis that the observed and the expected matrices are identical. The model is thus accepted if the test fails to reject the null hypothesis. In large samples such tests will reject good models on the basis of trivial misspecifications (Gerbing & Anderson 1993). This excessive power problem has led to an embarrassing proliferation of alternative fit indices, which leading software packages now routinely produce in the dozens. Following Bollen's (1989) suggestion, Table 4 presents the traditional chi-square along with 'several of the other fit indices'.

In the trimmed model non-significant paths have been set to zero, and in the fixed models all parameters have been set to the values estimated in the trimmed models. The chi-square tests detect statistically significant differences between observed and expected correlation matrices. The critical N provides a straightforward indi-

cation of the seriousness of these differences. Hoelter (1983) has proposed a critical N of 200 as a cut-off point for adequately fitting models. While the exact number may be debatable, the critical Ns reported in Table 4 ranging from 758 to 1378 are well beyond the limit.

The fit of the model may be examined more directly by calculating the differences between the observed correlations between indicators and the correlation between them implied by the model. The resulting fitted residuals have a range from −2.00 to +2.00. The Smallest Fitted Residual (SFR) is the largest negative difference between the model implied and the observed correlation matrix while the Largest Fitted Residual (LFR) is the largest positive difference. The root mean square residual (RMR) is an overall measure of the absolute difference between the correlation matrix observed and the matrix implied by the model. In Sample 1 the fitted residuals range from −0.06 to +0.07 with a RMR of 0.02. As is to be expected, the model fits Sample 2 slightly less adequately with a range of fitted residuals from −0.09 to 0.07 with a RMR of 0.03 for females and a range −0.11 to 0.10 and a RMR of 0.03 for males. Analyses of fitted residuals thus suggest an adequate fit for the models considered.

The RMSEA is a measure of lack of fit of the model to the *population* covariance matrix per degree of freedom for the model.

Browne & Cudeck (1993) propose that a value of 0.08 or less indicates a reasonable error of approximation and that a value of 0.05 or less indicates a close fit of the model. The models in Table 5 have a RMSEA of 0.02 to 0.03 and all have a 95 per cent confidence interval P value of 1.00 for RMSEA lower than 0.05.

The widely used Adjusted Goodness of Fit Index (AGFI) measures the relative amount of observed variances and covariances predicted by the model implied covariance matrix, adjusting for the degrees of freedom of the model relative to the number of variables (Bollen 1989). The AGFI values of 0.99 imply a good fit for all the models.

It should be concluded that both models fit the estimation samples and the test samples adequately, even though minor differences between expected and observed matrices are detected by the chi-square tests.

6. Conclusion

The results of this study support the main themes of the theoretical framework proposed. Both social support and suicide suggestion are found to have substantial, independent effects on suicidal behavior, both directly and indirectly through depression. The different categories of social support do, however, not perform equally in this respect. Mental support by family strongly reduces both depression and suicidal behavior. Material support by family reduces depression only, and thus indirectly slightly reduces suicidal behavior. Contrary to theories of social support, mental support by others than family slightly increases suicidal behavior. For females, this is counteracted by the small negative effect of mental support by others through depression, leading to virtually no total effect. Material support by others than family has no effect on either depression or suicidal behavior. The indirect effect of suicide suggestion through depression is equally strong for both sexes, but suicide suggestion has a much stronger direct effect on suicidal behavior among males than among females. Mental support by family and suicide suggestion have approximately equally strong total effects on suicidal behavior among

females, but for males suicide suggestion has a much stronger total effect than mental support by family. Depression is more strongly related to suicidal behavior among females than males.

These results suggest that Durkheimian integration models for explaining variances in suicide can be expanded to include the rival theories of suicide suggestion and psychological distress. Indeed, Skog (1991) has argued that Durkheim's rejection of all major competing perspectives on suicide was driven by the desire to show that sociology was a subject on its own, not reducible to any existing disciplines. In the process, Durkheim fails to consider the possibility that the other perspectives could compliment, or even be incorporated into his own theoretical model. Furthermore, his analysis is restrained by his reliance on aggregate data which lead him to operate with a rather closed concept of social structure, de-emphasizing those aspects not easily incorporated into his social–individual dichotomy (Lukes 1973; Collins 1985). Nevertheless, it is clear that Durkheim's multilevel theory of social interaction is also central to contemporary microsociological theory (Thorlindsson 1983, 1987). As Skog has shown to be the case with alcohol abuse, the results obtained in this study suggest that both suicide suggestion and depression complement rather than contradict Durkheimian integration theory. It is very plausible that either insufficient social support or suicide suggestion will cause psychological distress, including depression, and in that way influence suicidal behavior indirectly. If the idea of suicide is indeed communicated among those so predisposed as Durkheim notes, then suggestion will increase the probabilities of a suicide potential being realized in a suicide attempt. In other words, if social support is held constant, those exposed to suggestion are more likely to make a suicide attempt. In particular, a suicide among family or friends could be expected to weaken social integration and suggest suicide at the same time.

Among the most important challenges to further research is the investigation of the different dimensions of social support and suicide suggestion in relation to suicidal

behavior. It is necessary to tease out the potentially differential effects of mental support by source and type of such support. Similarly, the effect of suicide suggestion must be investigated by relations between victim and subject as well as lethality of suggestive acts. A deeper understanding of the mechanisms of suicide suggestion might, in particular, be obtained by studying how different levels of integration into a group influence the effect of suicides and suicide attempts inside and outside that group. Ultimately, further research and analysis should bring our understanding of the complex causes of suicide and suicidal behavior firmly beyond both Durkheim's pioneering work and the work of his 19th-century adversaries.

Notes
[1] The 'causality' of the model presented is necessarily theoretically rather than statistically determined, and the statistical tests based on cross-sectional data can only test whether the data at hand contradict the theoretical assumptions of causality.

[2] Tests of statistical significance should thus not be interpreted as probabilities of results obtained being true for the empirical population of Icelandic youth. Such tests could, however, be interpreted for the theoretical population, where the answer of each respondent can be seen as a hypothetical random realization of his or her experiences and attitudes.

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