

# Information integration of Kohlbergian thoughts about consensual sex\*

## Integración de la información de pensamientos Kohlberianos acerca del sexo consentido

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### ABSTRACT

The unification of two major approaches to moral judgment is the purpose of the present approach. Kohlberg's well-known stage theory assumes a sequence of discrete stages that underlie all moral judgment. Stage theory recognizes the problem of integrating considerations but gives no way to solve such integration, even with information from any one stage. And, of course, the stage concept denies any significant integration from different stages. Thus, research on moral judgment needs to study the integration problem which can be tested within Anderson's theory of information integration. The main purpose of the present study was to extend this unificationist approach to the issue of sexual morality. A novel task presents information from two very different stages. The results showed that in contrast to discreteness the stage informers were positively correlated in punishment judgments of both genders about consensual sex of juveniles. Furthermore, the subjects integrated considerations from those very different stages also in contrast to the hypothesis that only a single stage was operative at any time.

### Keywords

Information Integration Theory, Kohlberg, moral judgment, cognition development.

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### RESUMEN

La unificación de dos enfoques principales para el juicio moral es el propósito de la presente aproximación. La bien conocida Teoría de las etapas del desarrollo según Kohlberg asume una secuencia de etapas discretas que subyacen a todo juicio moral. Dicha teoría de los estadios reconoce el problema de la integración de las consideraciones, pero no da ninguna opción de resolver este problema de integración, siquiera con la información de uno de los estadios. Por supuesto, el concepto de etapa niega cualquier integración significativa de diferentes etapas. Por lo tanto, la investigación sobre el juicio moral debe estudiar el problema de la integración que puede ser probado desde de la Teoría de Integración de la Información de Anderson. El objetivo principal del presente estudio fue extender este enfoque unificador a la cuestión de la moral sexual. Una nueva tarea presenta la información de dos etapas muy diferentes. Los resultados mostraron que en contraste con la propuesta de etapas discretas los estadios de los participantes correlacionaron positivamente con los juicios de castigo de ambos sexos, sobre el sexo consensuado de los menores. Además, los sujetos integraron consideraciones de diferentes etapas, lo cual también contrasta con la hipótesis de que sólo una única etapa era operativa en un momento dado.

**Palabras clave**

Teoría de integración de la información, Kohlberg, juicio moral, desarrollo cognitivo.

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**Information integration of Kohlbergian thoughts about consensual sex**

The unification of two major approaches to moral judgment is the purpose of the present approach. Concepts of Kohlberg's well-known stage theory (Kohlberg, 1969, 1976) and Anderson's information integration theory, IIT, (Anderson, 2008, pp. 216f) have been unified in prior studies on moral information integration (Kaplan, 1989; Hommers, 1997). Stage theory needs the capability for integrating different pieces of information like in the Blame Schema: Blame = Responsibility + Consequences (Anderson, 2015, Chapter 3). Stage theory recognized the integration operation: "integrating the various considerations" (Rest, 1983, p. 561); "framework for prioritizing and integrating considerations" (Rest, 1983, p. 563); "balancing and weighing conflicting claims" (Colby, Kohlberg, Gibbs, & Lieberman, 1983, p. 7). However, stage theory has no way to solve such integration. Hence information integration theory can make a fundamental contribution to a neglected field of stage theories because more than one moral variable will generally be operative within any one stage. Moreover, previous work of the present unification approach found that subjects integrated information from very different stages (Hommers & Lee, 2010; Hommers, Lewand, & Ehrmann, 2012; Hommers & Schütt, 2014). Thus, the basic assumption of discrete stages appeared to be wrong.

The unification approach of Hommers (1997) used a novel task to test both, (1) the hypothesis that only one stage operates at any time, and (2) the integration problem. The novel task avoids choices in dilemmas and their justifications in a moral judgment interview, MJI, which is the central method of the Kohlbergian approach. Instead, it presents the content of two very distinct Kohlbergian stages as stimuli on which the subjects should give their evaluations.

Personal Risk represents stage 1, heteronomous morality, and Societal Risk represents stage 4, social system and conscience, as characterized by Colby et al. (1987, p. 18). Note that those two risk informers represent the extremes in Gibb's two-phase model (Gibbs, 2003; Gibbs, Basinger, Grime, & Snarey, 2007) which cancelled the generally very rare fifth and sixth stages of Kohlberg, using only the first four of Kohlberg's six. According to widespread agreement in the literature about the universal presence of the first four stages, to employ them appeared most effective for testing the information integration of Kohlbergian informers and the stage discreteness claim.

The purpose of the present study was to extend the scope of offences to other than those related to property studied before. Among no-theft themes, the case of consensual sex of juveniles appeared most interesting because it might elicit gender influences which have not been obtained neither with this unification, nor with the stage approach as Walker (1984), Thoma (1986), and Jaffee & Hyde (2000) reported based on meta-analyses with more than 200 samples in contrast to Gilligan's (1982) claim, which was based on case studies only.

**Method**

The task consisted of a fixed background story of the case and the variable stimuli conditions of the thought scenario. The case story told about an incident with a twofold legal background. First, according to the age limits in the German criminal law, juveniles below 14 years of age are not criminally responsible, but above they may

be held responsible. Second, sexual intercourse with juveniles below the age of 14 years is a crime when the other one is older than 14 years.

The case described consensual sex of Loving Juveniles: The 15 year old Niklas and his 13 year old girlfriend were in love. The mother of the girl found contraceptives and interrogated her daughter and was told about the reason behind it. The parents of the girl brought a charge against Niklas.

Following this fixed information, Kohlbergian informers were presented as thoughts of the actor, in this case, Niklas. The thoughts of each informer were varied and presented singly as well as in combination.

The stage 1 stimulus variable, Personal Risk, had the following three conditions: "The risk of being caught and severely punished is low (medium, high)". The stage 4 stimulus variable, Societal Risk, had the following three conditions: "If everybody acted like me, law and order would be at low (medium, high) risk in the long run". The levels of each risk informer were presented singly and combined with the levels of the other risk informer. A 2-factorial version of the nine 3 x 3 Personal Risk x Societal Risk combinations included, for example "Niklas thought: The risk of being caught and severely punished is low (medium or high, respectively) and "if everybody acted like me, law and order would be at high (medium or low, respectively) risk in the long run."

Additionally for reasons detailed in the correlation results, two thought levels of a Friends informer, "my friends would do so" versus "my friends would not do so", representing the Kohlbergian stage 3, and two thought levels about a non-moral informer, Room Attractiveness, "I like the room where we are" versus "I do not like the room where we are", were presented singly as thoughts.

### ***Participants***

Forty female, mean age= 22.4 years (SD= 3.4), and forty male, mean age = 24.1 (SD= 2.5) participants volunteered. They were university

students or graduates with an age range from 19 to 35 years.

### ***Procedure***

First the subjects read the case of Niklas and were introduced to the graphical rating scale similar to standard integration-theoretical manner (Anderson, 2008). They should take the perspective of a judge who interrogates the accused assuming a criminal code with applicable punishment ranging from 0 to 100 hours of social work to anchor the graphical rating scale.

Three steps of instruction followed. First, the subjects gave an initial judgment on the case without added thoughts after which they said whether they would act like Niklas or not. Second, a preparatory phase followed in which they were given a list with thoughts to make them familiar with the content of the stimuli. The list included the high and low levels for Personal Risk and Societal Risk as well as choices representing the two Friends conditions and the non-moral conditions. The subjects first checked whether Niklas actually might have thought about those particular contents before acting. In order to sensitize the subjects to the moral nature of the task, they afterwards indicated whether Niklas should have thought about it before acting. Third, punishment ratings for all ten single levels of thought informers were obtained as training. These included the six levels of single Kohlbergian Risk informers, the two levels of the Friends informer, and the two levels of the non-moral Room Attractiveness informer.

Finally the nine 3 x 3 combinations of Kohlbergian informers followed intermixed with the ten single informers in the main phase. Thus, including the training phase, the subjects judged about 29 (10 + 19) stimuli on the rating scale in total.

## Results

### *Correlation of individual effect sizes*

Correlational analyses of individual effect sizes were made to test the discreteness assumption of stages. The individual effect sizes were calculated by subtracting the punishments for the low level from those for the high level of the informers.

Kohlberg's stage sequence predicts that the individual differences of the levels of different moral stage informers should correlate negatively because the effect of stage-specific information should be substantial for a person at that moral stage, but small for a person at a different stage. This prediction also follows from the MJI data which Colby et al. (1983, p. 48 -49, Figures 2 to 5) reported about four participants in their longitudinal research. This prediction should be more accentuated for the two Risk informers than for the Friends informer because they were more apart in the stage sequence. However this prediction should not hold for the non-moral informer.

The results contradicted the stage predictions about the moral informers and confirmed them about the non-moral informer, similarly as reported in former results (Hommers & Lee, 2010; Hommers et al., 2012; Hommers & Schütt, 2014). The central prediction was that all correlations of the two Risk informers (from stage I and IV) were positive. This was verified,  $r = + 0.62$  in average, and substantial (between  $r = + 0.33$  and  $r = + 0.85$ ,  $p < 0.001$ ). The Friends informer was expected to show lower correlations. However, this was still positive with the two Risk informers:  $r = + 0.12$  in average. Of course, the individual effects of the non-moral informer should be uncorrelated with the individual effects of the three Kohlbergian stage informers. This prediction was supported as those correlations were  $r = + 0.05$  in average, as in former results.

Factor Analysis can summarize those correlation results by the loadings of its three principal components. The pattern of varimax

rotated loadings is shown in Table 1 which appeared to be very close to the ideal of simple structure. The six difference variables from the two Risk informers had high loadings only on the first component which replicates prior results (Hommers, 1997; Hommers & Lee 2010; Hommers et al., 2012; Hommers & Schütt, 2014). The two difference variables from the Friends' informer had high loadings only on the second component, and the two difference variables of the non-moral Room Attractiveness informer had high loadings only on the third component.

**Table 1**  
*Varimax-Rotated Loadings of PCA of difference variables (Eigenvalues: 4.203, 1.885, 1.195, 0.975, 0.680)*

Differences of Individual Ratings	Risk	Friends	Non-Moral
Personal Risk combined	0.695	-0.037	-0.194
Societal Risk combined	0.808	0.187	0.306
Personal Risk single training phase	0.809	-0.073	-0.049
Personal Risk single main phase	0.861	-0.017	-0.079
Societal Risk single training phase	0.847	0.147	0.050
Societal Risk single main phase	0.839	0.174	0.255
Friends also training phase	0.019	0.927	-0.015
Friends also main phase	0.137	0.927	0.113
Room Attractiveness training phase	0.256	-0.112	0.773
Room Attractiveness main phase	-0.235	0.217	0.707

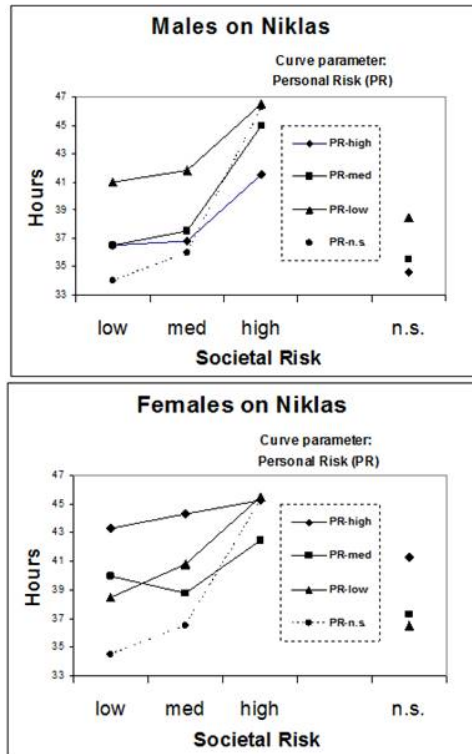
Source: own work

### *Information integration*

The average effect of Societal Risk was 7.4 hours ( $p = 0.026$ ), that of Personal Risk was 1.1 hours ( $p = 0.056$ ) depending on gender in a particular manner (see below). The effect of Friends was 3.8 hours and of Room was 1 hour, neither significant. Both graphs of Figure 1 support the presence of information integration in the punishment judgments by the slopes and distances between their solid curves.

**Figure 1**

Mean punishment in hours of social work as a function of the Societal Risk thoughts (horizontal axis) and the Personal Risk thoughts (curve parameter). Single points at right on graphs represent the judgments on single levels of Personal Risk when Societal Risk was not specified (n.s.).



Source: own work

The slopes of the solid curves represent the effects of Societal Risk combined with the various levels of Personal Risk which were 3.8 hours of social work for females,  $F(2.38) = 2.58$  ( $p = 0.038$ ), and 6.3 hours for males,  $F(2.38) = 8.54$  ( $p < 0.001$ ). The distances between the solid curves represent the effects of Personal Risk combined with the three levels of Societal Risk, which were 2.7 hours for females and 4.8 hours for males. Note that males had larger effects of both, Personal and Societal Risk, than females. Note also that Societal Risk had larger effect than Personal Risk for both gender groups which replicates results of studies employing burglary cases.

Both gender specific tests of the interactions of the two Risk informers were not significant ( $p = 0.59$  for females and  $p = 0.74$  for males) supporting an additive integration. But, when the Societal Risk informer was presented alone (broken curves) its effect was much more pronounced than when presented combined (solid curves), as expected from the averaging model of IIT (Anderson, 2008). Also in support of the averaging model of IIT, both graphs of Figure 1 show crossovers of the broken curves for the Societal Risk informer presented alone:  $F(2.78) = 4.00$  ( $p = 0.02$ ) for the interaction of the broken curves with the curves of the medium level of Personal Risk.

### Gender

Gender had no main effect ( $p = 0.63$ ) when the judgments were about the combined Risk informers: 42.1 hours of social work for females versus 40.3 hours for males ( $p = 0.63$ ). Similarly, Gender had no effect on the integration of the Societal Risk informer. Both, females and males agreed that high Societal Risk should be punished more than low Societal Risk, as showed in the increasing slopes of both gender groups in the graphs of Figure 1.

However, gender changed the effect of the Personal Risk informer as shown in Figure 1 and statistically supported by the interaction of Personal Risk and Gender:  $F(2.15) = 4.39$  ( $p = 0.02$ ). Females punished harsher in high than in low Personal Risk (2.7 hours more), whereas males punished harsher in low than in high Personal Risk (4.8 hours more). This novel gender effect remains a puzzle.

The inverse order of the single points at the right sides of both graphs shows this Gender effect on the order of the levels of Personal Risk. Their spreads show, additionally, that the effect of Personal Risk in single presentation was more pronounced in females than in males when each was compared with the judgments on combined Risk informers (4.7 vs. 3.9 hours, for females and males, respectively) which supports the averaging model of IIT.

## Discussion

The study had two purposes, testing the discreteness of Kohlbergian stages and the information integration of Kohlbergian content with the offence of consensual sex between two juveniles. Additionally of interest was the existence of gender effects in the judgments of that sex offence.

### *Stage discreteness*

Two main results were obtained with the punishment judgments of both genders about consensual sex of juveniles. First, in contrast to the discreteness assumption of Kohlbergian stages, positive associations of the Kohlbergian informers were found which were particularly strong for the extremely different stages of Personal and Societal Risk, and less strong for the intermediate stage informer Friends, being distinct enough to result in a distinct second factor in the factor analysis of Table 1. This complete replication of prior results with burglary cases (Hommers, 1997; Hommers & Lee, 2010; Hommers et al., 2012; Hommers & Schütt, 2014) was shown in the correlation analyses and cross-validated by the distinctness of the third factor for the non-moral informer (Table 1) which differed from the content of formerly used non-moral informer. Second, the subjects integrated considerations from very different stages which is in sharpest contrast to the discreteness assumption that only a single stage is operative at any time. Clearly, subjects could use informers of stages which are at the extremes of Kohlberg's moral stage sequence.

### *Unification*

Between-stage information integration was the basic result for the unification theme. The different offence, consensual sex of juveniles, used in the present study replicated the results of prior studies about burglary (Hommers et al., 2012). Again clear support for the averaging

model was obtained with the novel information integration task which was independent of gender. Hence, information integration appeared as a universal quality of morality, which was acknowledged but never studied by stage theorists as their theory lacked proper methods.

However, gender and offence did interact in one respect. Females evaluated Personal Risk differently from males as shown in Figure 1. There is no explanation for this novel gender effect which deserves further study. One speculation is that females consider high detection risk taken of the actor as rather blameworthy of the actor whereas males as actors may disprove the other way round because of the involved recklessness of the actor. Thus, the information integration approach to Kohlbergian stages appears to have potential for the moral valuation of information beyond demonstrated integration.

This across-stage integration demonstrates that the unification approach complements moral information integration in other fields. For example, blame may be the most common moral judgment. Blame occurs in the family, in school grades, and at every level of government. Most law is intended to reduce the amount of blame in society, and blame is immanent in legal sentences. The integrationist blame schema has been shown to follow the averaging model in experiments with young children and adults (e.g. Leon, 1980; Surber, 1982). Hommers & Anderson (1985) also showed that this rule is robust as it worked even under extended conditions when recompense informers are to be integrated additionally. Moreover, it may be applied to judges' sentences in legal uses (Hommers, 1988; Howe, 1991; Howe & Loftus, 1992).

This support for the blame schema points to another lack of moral stage theories:

**Within-stage integration.** Aside from the blame schema, there are other areas of moral development ready for studying within-stage integration in order to unify moral stage theory with information integration theory. Research on the fairness/unfairness schema showed information integration even with preschool

children (Anderson & Butzin, 1978) disagreeing sharply with the results of Damon (1977) who applied the standard interview method of stage theory as basis for his stage theory (see Anderson, 2008, p. 212 for details). Thus, the unification approach allows studying both *across-stage integration and within-stage integration* of various moral informers involved in different moral schema. Hence, information integration theory can make a fundamental contribution to a neglected field of stage theories because more than one moral variable will generally be operative within any one stage.

In summary, the present results confirm and extend previous work affirming that the basic assumption of discreteness of Kohlberg's stages is incorrect. Instead, further support was found that more than one stage may be operative at any time and further support for the averaging model of information integration theory was provided. Stage theories need information integration theory to study the neglected problems of cross-stage and within-stage moral information integration. A unified approach, in which the stages are embedded in the integration framework, appears promising for moral judgment research.

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## Notes

- \* Research article.